

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

## APPLICATION TO TRANSFER PERMIT

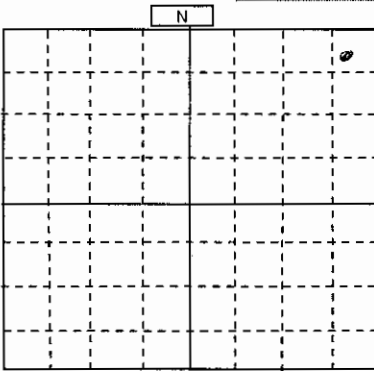
## NAME &amp; ADDRESS OF EXISTING PERMITTEE

Kalkaska Oilfield Services  
4030 Columbus Drive, NE  
Kalkaska, Michigan 49646

## NAME &amp; ADDRESS OF SURFACE OWNER

Kalkaska Oilfield Services  
4030 Columbus Drive, NE  
Kalkaska, Michigan 49646

Locate Well and Outline Unit on  
Section Plat - 640 Acres



## STATE

Michigan

## COUNTY

Kalkaska

## PERMIT NUMBER

MI-079-2D-C016

## SURFACE LOCATION DESCRIPTION

NW 1/4 of NE 1/4 of E 1/4 of 1/4 of Section 27 Township 28N Range 7W

## LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

## Surface

## Location

380 ft. From (N/S)

North Line of Quarter Section

## And

920 ft. From (E/W)

East Line of Quarter Section

## WELL ACTIVITY

- ☐ Class I  
☒ Class II  
     ☒ Brine Disposal  
     ☐ Enhanced Recovery  
     ☐ Hydrocarbon Storage  
☐ Class III  
☐ Other

## WELL STATUS

- ☒ Operating  
☐ Modification/Conversion  
☐ Proposed

## TYPE OF PERMIT

- ☒ Individual  
☐ Area

Number of Wells ☐

Lease Number

Wlosinski

Well Number

2-27

## NAME(S) AND ADDRESS(ES) OF NEW OWNER(S)

S.W.D. Speciaties, LLC  
4030 Columber Drive, NE  
Kalkaska, Michigan 49646

## NAME AND ADDRESS OF NEW OPERATOR

S.W.D. Speciaties, LLC  
4030 Columber Drive, NE  
Kalkaska, Michigan 49646

Attach to this application a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them.

The new permittee must show evidence of financial responsibility by the submission of surety bond, or other adequate assurance, such as financial statements or other materials acceptable to the director

## CERTIFICATION

I certify under the penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref.40 CFR 144.32)

NAME AND OFFICIAL TITLE

Rick Root Yard Manager

SIGNATURE

Rick Root

DATE SIGNED

3-2-2006



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:  
WU-16J

NOV 2 2006

**CERTIFIED MAIL 7001 0320 0006 0199 4394**  
**RETURN RECEIPT REQUESTED**

Shawn Humphrey  
SWD Specialties, LLC  
4030 Columbus Drive NE  
Kalkaska, Michigan 49646

**Re: Minor-modified Underground Injection Control (UIC) Permits #MI-035-2D-C028,  
#MI-055-2D-C015, #MI-055-2D-C033, #MI-065-2D-C008, #MI-079-2D-C001,  
#MI-079-2D-C008, #MI-079-2D-C016 and #MI-101-2D-C030**

Dear Mr. Humphrey:

The final minor-modified pages for the eight SWD Specialties, LLC permits referenced above are enclosed. They replace the correlated pages in the existing permits. Pursuant to Title 40 of the Code of Federal Regulations Section 144.41(e), these permits are modified as follows:

<u>Page/Permit Condition</u>	<u>Modification</u>
Att. D/List of Approved Sources	Add source 253, Garfield Sec 08 (Beaver Creek)

This action constitutes issuance of ten minor-modified permits which become effective on the date specified in the permits. Should you have any questions, please contact Dr. Stephen Roy by phone at (312) 886-6556 or by email to [roy.stephen@epa.gov](mailto:roy.stephen@epa.gov).

Sincerely yours,

Lisa Perenchio, Chief  
Direct Implementation Section, UIC Branch

Enclosures

cc: Dave Davis, Michigan Department of Environmental Quality  
WU-16J:S.Roy:10/30/06:g:\uic\class2\SWD Specialties\minormod\number62.doc

SR  
10/31/06  
OR  
AR for LP

WU  
11/1/06

10/31/06  
11/1/06

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

**PLUGGING AND ABANDONMENT PLAN****Name and Address of Facility**

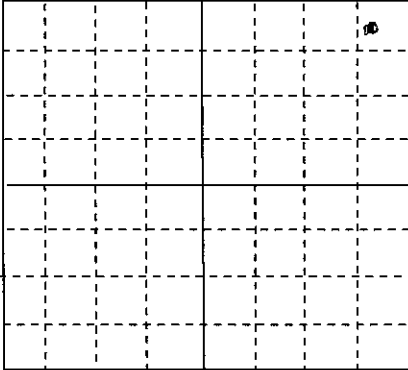
Wlosinski #2-27 swd  
1834 Wood Rd, NE  
Kalkaska, Michigan 49646

**Name and Address of Owner/Operator**

S.W.D SPECIALTIES, LLC  
4030 COLUMBUS DR.  
KALKASKA MI. 49646

Locate Well and Outline Unit on  
Section Plat - 640 Acres

N



State

Michigan

County

Kalkaska

Permit Number

MI-079-2D-C016

Surface Location Description

NW 1/4 of NE 1/4 of E of Section 27 Township 28N Range 7W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface

Location 380 ft. From (N/S) North Line of Quarter Section

And 920 ft. From (E/W) East Line of Quarter Section

**TYPE OF AUTHORIZATION**

- ☒ Individual Permit  
☐ Area Permit  
☐ Rule

Number of Wells 1

Lease Name Wlosinski

**WELL  
ACTIVITY**

- ☐ Class I  
☐ Hazardous  
☐ Nonhazardous  
☒ Class II  
☒ Brine Disposal  
☐ Enhanced Recovery  
☐ Hydrocarbon Storage  
☐ Class III

Well Number 2-27 swd

**CASING AND TUBING RECORD AFTER PLUGGING**

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
11 3/4	42#	90'	90'	driven
8 5/8	32#	950'	950'	12 1/4
5 1/2	15.5#	2990'	2990'	7 7/8

**METHOD OF EMPLACEMENT OF CEMENT PLUGS**

- ☒ Balance Method  
☐ Dump Bailer Method  
☐ Two Plug Method  
☐ Other

**CEMENT TO PLUG AND ABANDON DATA:**

	Plug #1	Plug #2	Plug #3	Plug #4	Plug #5	Plug #6	Plug #7
Size of Hole or Pipe in Which Plug Will Be Placed (inches)	5 1/2	5 1/2	5 1/2				
Depth to Bottom of Tubing or Drill Pipe (ft) CIBP	2400'	950'	140'				
Sacks of Cement To Be Used (each plug)	20	20	15				
Slurry Volume To Be Pumped (cu. Ft.)	23.6	23.6	17.5				
Calculated Top of Plug (ft.)	2125'	675'	surface				
Measured Top of Plug (if tagged, ft.)							
Slurry Weight (Lb./Gal.)	15.6	15.6	15.6				
Type of Cement or Other Material (Class III)	A	A	A				

**LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (if any)**

From  
2422'

To  
2594'

From  
Perfs

To  
Formation Dundee

**Estimated Cost to Plug Wells****CERTIFICATION**

I certify under the penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref.40 CFR 144.32)

Name and Official Title

(Please type or print)

Rick Root Yard Manager

Signature

Date Signed

3-2-2006

**REQUEST FOR TRANSFER OF PERMIT**

Required by authority of Part 615 Supervisor of Wells or Part 625 Mineral Wells, Act 451 PA 1994 as amended. Non-submission and/or falsification of this information may result in fines and/or imprisonment.

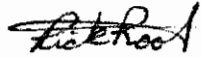
☒ Part 615 Oil/Gas Well☐ Part 625 Mineral Well

Permit number 36963	Well type Brine Disposal	Current true vertical depth 4400'
Well name and number Wlosinski 2-27 SWD		
Surface location NW 1/4 NE 1/4 NE 1/4 Section 27 T 28N R 7W		
Township Rapid River		County Kalkaska


NOTE: Eligibility for permits is conditioned upon compliance with the statutes, rules and orders of the Department of Environmental Quality. Permits shall not be transferred to persons not in compliance. A permit for a well shall not be transferred if the permittee is under notice because of unsatisfactory conditions at the well site until compliance is achieved. The acquiring permittee shall attach a current Organization Report (EQP 7200-13)

**This permit does not convey property rights in either real estate or material nor does it authorize any injury to private property or invasion of private or public rights nor does it waive the necessity of seeking federal and local permits or complying with other state statutes.**

**TRANSFER OF A PERMIT FROM:**

Name(s) of Selling Permittee(s) Kalkaska Oil Field Services	Fed. I.D.# or S.S.# 38-308-3604		
Address: Number and Street, City or Town, State, ZIP Code Telephone 4030 Columbus Drive, NE, PO Box 1090 Kalkaska, MI 49646 616-258-6026			
All permits rights and responsibilities are discharged by:			
Kalkaska Oilfield Services Permittee	Rick Root Authorized representative name	 Signature	12-13-05 Date
Permittee	Authorized representative name	Signature	Date
Permittee	Authorized representative name	Signature	Date

**TRANSFER OF A PERMIT TO:**

Name(s) of Acquiring Permittee(s): SWD Specialties LLC	Fed. I.D.# or S.S.# FIN 20-3310760		
Address: Number and Street, City or Town, State, ZIP Code Telephone 4030 Columbus Drive, Kalkaska, MI 49646 - Bus: 231-258-9134			
(We are) (I am) an owner or authorized representative of the owner of the well under this permit and assume full responsibility for the drilling, operation, and abandonment in conformity with the law, regulations and orders.			
BOND: <input checked="" type="checkbox"/> Single Well <input checked="" type="checkbox"/> Attached Surety or Bank <u>Northwestern Bank</u> <input type="checkbox"/> Blanket <input type="checkbox"/> On File Bond Number <u>LOC #0511158</u> Amount <u>\$25,000</u> <input type="checkbox"/> Statement of Financial Responsibility			
All permittee rights and responsibilities are assumed by:			
SWD Specialties, LLC Permittee	George Molski Authorized representative name	 Signature	11/23/05 Date
Permittee	Authorized representative name	Signature	Date
Permittee	Authorized representative name	Signature	Date

**FOR DEPARTMENT OF ENVIRONMENTAL QUALITY USE ONLY**

Approved _____ Signature	Date _____	Distribution by DEQ <input type="checkbox"/> Lansing <input type="checkbox"/> Selling Owner <input type="checkbox"/> Field <input type="checkbox"/> Acquiring Owner
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 **Northwestern  
Bank**

625 S. Garfield Ave.  
P.O. Box 809  
Traverse City, MI 49685-0809  
(231) 947-5490

[www.nwbank.com](http://www.nwbank.com)

**Irrevocable Letter of Credit # 0511158**  
**Date: November 15, 2005**  
**Expiration Date: November 15, 2006**  
**Wlosinski 2-27 SWD well**  
**Part 615 Supervisor of Wells, 1994 PA 451, as amended**

**Supervisor of Wells**  
**Michigan Department of Environmental Quality**  
**P.O. Box 30256**  
**Lansing, MI 48909-7756**

We hereby issue our Irrevocable Letter of Credit #0511158 in your favor on behalf of SWD Specialties, LLC, hereinafter known as the Company, for a sum of Twenty Five Thousand Dollars (\$25,000.00), available by your drafts at sight drawn on our institution, Northwestern Bank. Drafts must be marked "Drawn under Northwestern Bank Letter of Credit # 0511158 dated November 15, 2005".

This letter is issued to provide financial assurance to the State of Michigan for the well known as Wlosinskki 2-27 SWD.

The Supervisor of Wells may draw on this Letter of Credit in the event (1) that the Department of Environmental Quality issues a Notice of Violation indicating that the Company has failed to comply with the provisions of PART 615 SUPERVISOR OF WELLS, 1994 PA 451, as amended in the final completion of the aforesaid well or wells. "Final Completion" means the locating, drilling, completing, producing, reworking, plugging, filling of pits, and clean up of well site, including the filing of prescribed records and approval thereof by the Supervisor of Wells; or (2) that the Company fails to provide the Supervisor of Wells with an extension of this Letter of Credit or other financial assurance; or (3) that the Company is adjudged insolvent or bankrupt. The Company shall be deemed, for purposes of this Letter of Credit, adjudged bankrupt upon any petition under Title 11 of the United States Code, filed on the Debtors behalf, and an order for relief granted by any of the United States District of Bankruptcy Courts.

If any provision of this Letter of Credit is construed as ineffective by the court of competent jurisdiction, all other provisions of this Letter of Credit shall remain in full effect and be enforceable pursuant to the effective provisions contained herein.

This Letter of Credit is subject to the Uniform Customs and Practices for Documentary Letters of Credit, 1993 revision of the International Chamber of Commerce, Publication No. 500, and as to matters not governed by the Uniform Customs and Practice for Documentary Credits,

aforementioned, shall be governed by, and construed in accordance with the Uniform Commercial Code of the State of Michigan.

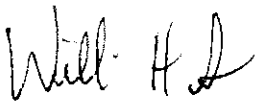
Partial drawings are permitted without canceling the Letter of Credit balance. This original Letter of Credit must be submitted to us together with any drawings thereunder for our endorsement of any payments affected by us and or cancellation.

It is a condition of this Letter of Credit that it shall be automatically extended for additional terms of one (1) year from the present or each future expiration date unless we give the Supervisor of Wells and the Company, at least ninety (90) days before said expiration date, written notice by certified mail, return receipt requested, or hand delivery, that we elect to terminate this Credit at the end of its then current term.

In the event we give notice of our election to terminate this Letter of Credit and SWD Specialties, LLC fails to replace this Letter of Credit with other financial assurances acceptable to the Department, you may draw on this Letter of Credit, up to the aggregate amount, less any prior drafts presented by the Department and paid by us, not sooner than thirty (30) days after the date of such notice by presentation of a draft marked "Drawn under Northwestern Bank Letter of Credit No. 0511158", accompanied by a statement purportedly signed by an authorized representative of the Department reading as follows:

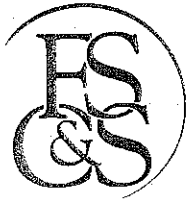
"The Michigan Department of Environmental Quality is making this drawing because SWD Specialties, LLC has failed to replace this Letter of Credit with other financial assurances acceptable to the Department."

We hereby engage with you that drafts in conformity with the terms of this Letter of Credit will be duly honored upon presentation if presented on or after November 15, 2005 and on or before November 15, 2006. The amount of each draft must be endorsed on the reverse of this Letter of Credit by the negotiating financial institution.



William H. Green  
Vice President

**FOSTER,  
SWIFT,  
COLLINS &  
SMITH, P.C.**  
Attorneys at Law



**LANSING:**  
313 S. Washington Square  
Lansing, MI 48933-2193  
PH: 517.371.8100  
FX: 517.371.8200

**FARMINGTON HILLS:**  
Suite 230  
32300 Northwestern Hwy.  
Farmington Hills, MI 48334-1571  
PH: 248.539.9900  
FX: 248.851.7504

**GRAND RAPIDS:**  
Suite 200  
1700 East Beldine, N.E.  
Grand Rapids, MI 49525-2076  
PH: 616.726.2200  
FX: 616.726.2299

Walter S. Foster  
1878-1961  
Richard B. Foster  
1908-1996  
Theodore W. Swift  
1928-2000  
John L. Collins  
1926-2001

Webb A. Smith  
Allan J. Claypool  
Gary J. McRay  
Robert J. McCullen  
Stepheno I. Jurnu  
William K. Fahey  
Stephen O. Schultz  
William R. Schulz  
David H. Aldrich

Scott A. Storey  
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Charles E. Barbieri  
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Dirk H. Beckwith  
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Bruce A. Vande Vusse  
Lynwood P. VandenBosch  
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James B. Doezema

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Todd W. Hoppe  
Sarah J. Gabis  
Larry R. Jensen, Jr.  
Alison R. Lievense  
Eleanor M. Schroeder  
Philip E. Hamilton

*Of Counsel*  
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David VanderHaagen  
Michael G. Harrison  
Allan O. Maki  
Frederick B. Bellamy  
Gilbert M. Frimet  
Deborah J. Williamson  
Peter R. Tolley  
Robert C. Greene  
Scott H. Hogan  
James B. Frakie  
Mark J. Colon  
Craig R. Petersen

Writer's Direct Phone: (517) 371-8155

Fax: (517) 371-8155 Reply To: Lansing

**RECEIVED**

February 21, 2006

FEB 22 2006

**UIC BRANCH  
EPA REGION 5**

*Via Federal Express*

Stephen Roy (WG165)  
Underground Injection Control Program  
United States Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, IL 60604-3590

Dear Sir:

Re: SWD Specialties/Transfer of UIC Permits

As you are aware, this office represents SWD Specialties, LLC, which informed your agency of the transfer of certain underground injection control permits from Kalkaska Oilfield Services to SWD Specialties, LLC. In that regard, you asked for the Plugging and Abandonment plans for those wells. We now enclose a copy of those plans for your reference. We would ask that you confirm that the agency will consider these UIC permits transferred at the time that the closing occurs regarding the transfer of the wells in question. If you have any questions or comments, please advise.

Very truly yours,

FOSTER, SWIFT, COLLINS & SMITH, P.C.

*Charles E. Barbieri*

Charles E. Barbieri

CEB:cas

Enclosures

cc: George Molski (w/o enc.)  
James B. Jensen, Jr. (w/out enc.)  
Joe Quandt (w/out enc.)  
Larry Organek (w/out enc.)

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MI-079-2D-C016

**PLUGGING AND ABANDONMENT PLAN****Name and Address of Facility**

Wlosinski #2-27 swd

**Name and Address of Owner/Operator**S.W.D SPECIALTIES, LLC  
4030 COLUMBUS DR.  
KALKASKA MI. 49646Locate Well and Outline Unit on  
Section Plat - 640 Acres

State

MI

County

kalkaska

Permit Number

36963

**Surface Location Description**

nw ne ne sect 27 twp 28N range 7W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface

Location 380 ft. From (N/S) N Line of Quarter Section

And 920 ft. From (E/W) E Line of Quarter Section

**TYPE OF AUTHORIZATION**☒ Individual Permit☐ Area Permit☐ Rule

Number of Wells 1

Lease Name Wlosinski

**WELL  
ACTIVITY**☐ Class I☐ Hazardous☐ Nonhazardous☒ Class II☒ Brine Disposal☐ Enhanced Recovery☐ Hydrocarbon Storage☐ Class III

Well Number 2-27 swd

**CASING AND TUBING RECORD AFTER PLUGGING**

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
11 3/4	42#	90'	90'	driven
8 5/8	32#	950'	950'	12 1/4
5 1/2	15.5#	2990'	2990'	7 7/8

**METHOD OF EMPLACEMENT OF CEMENT PLUGS**☒ Balance Method☐ Dump Bailer Method☐ Two Plug Method☐ Other**CEMENT TO PLUG AND ABANDON DATA:**

	Plug #1	Plug #2	Plug #3	Plug #4	Plug #5	Plug #6	Plug #7
Size of Hole or Pipe in Which Plug Will Be Placed (inches)	5 1/2	5 1/2	5 1/2				
Depth to Bottom of Tubing or Drill Pipe (ft) CIBP	2400'	950'	140'				
Sacks of Cement To Be Used (each plug)	20	20	15				
Slurry Volume To Be Pumped (cu. Ft.)	23.6	23.6	17.5				
Calculated Top of Plug (ft.)	2125'	675'	surface				
Measured Top of Plug (if tagged, ft.)							
Slurry Weight (Lb./Gal.)	15.6	15.6	15.6				
Type of Cement or Other Material (Class III)	A	A	A				

**LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (if any)**

From

2422'

To

2594'

From

Perfs

To

Formation Dundee

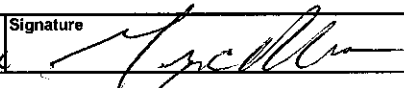
**Estimated Cost to Plug Wells****CERTIFICATION**

I certify under the penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref.40 CFR 144.32)

Name and Official Title

George P. Molski Manager

Signature



Date Signed

2/20/05



ORIGINAL WELL CONSTRUCTION DURING OPERATION

PLUGGING AND ABANDONMENT CONSTRUCTION  
MI-079-2D-C 016

*Description*

*WLOSINSKI 2-27 SWD*

*PERM = E MI-079-2D-C016*

Surface

Surface

Top Of Cement SURF (ft.)

Surface Casing 950 (ft.)

USDW Base 850 (ft.)

Top Of Cement NA (ft.)

\* Intermediate Casing NA (ft.)

Top Of Cement SURF (ft.)

Perforations: 2422  
2594

Hole Size 7 7/8 (in.)

Packer Depth \_\_\_\_\_ (ft.)

Long String Casing \_\_\_\_\_ (ft.)

\* Depth \_\_\_\_\_ (ft.)

Top Plug Interval  
SURF (ft.) to  
140 (ft.)

\* USDW Base Plug Interval  
950 (ft.) to 675 (ft.)

\* Intermediate Cut/Rip Point Plug Interval  
NA (ft.) to NA (ft.)

\* Middle Plug Interval  
NA (ft.) to NA (ft.)

\* Long String Cut/Rip Point Plug Interval  
NA (ft.) to NA (ft.)

Bottom Plug Depth  
2400 (ft.) to 2125 (ft.)

\* Mechanical Plug Depth 2400 (ft.)

Surface Casing 950 (ft.)

USDW Base 850 (ft.)

\* Intermediate Cut/Rip Depth NA (ft.)

\* Intermediate Casing NA (ft.)

\* Long String Cut/Rip Depth NA (ft.)

Long String Casing 2400 (ft.)

\* Depth 2991 (ft.)

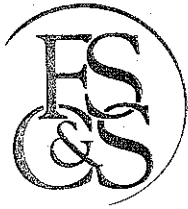
\*\* Add Any Additional Information  
\* May Not Apply

\*\* Add Any Additional Information  
\* May Not Apply

LIST OF ALL OPEN AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED

Specify Open Hole/Perforations/Varied Casing	From	To	Formation Name
<u>PERFORATIONS</u>	<u>2422</u>	<u>2594</u>	<u>DUNDEE LIMESTONE</u>

**FOSTER,  
SWIFT,  
COLLINS &  
SMITH, P.C.**  
Attorneys at Law



Walter S. Foster  
1878-1961  
Richard B. Foster  
1908-1996  
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1926-2001

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Gary J. McRay  
Robert J. McCullen  
Stephen I. Jurmu  
William K. Fahey  
Stephen O. Schultz  
William R. Schulz  
David H. Aldrich

Storey  
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Charles E. Barbieri  
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Michael D. Sanders  
Sherry A. Stein  
Brent A. Titus  
Brian A. Kaser  
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Glen A. Schmiede  
Brian G. Goodenough  
Matt G. Hrebec  
Eric E. Doster  
Stephen J. Rhodes

Melissa J. Jackson  
Steven H. Lasher  
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Deanna Swisher  
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Thomas R. Meagher  
Douglas A. Mielock  
Peter R. Albertins  
Scott A. Chernich  
Donald E. Martin  
Jennifer M. Van Horn  
Paul J. Millenbach  
Dirk H. Beckwith  
Brian J. Renaud  
Bruce A. Vande Vusse  
Lynwood P. VandenBosch  
Lawrence Korolewicz

James B. Doezen  
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Francis G. Seyferth  
Anne M. Seurnyck  
Richard L. Hillman  
Andrea J. Hool  
Steven L. Owen  
Jennifer Kildea Dewane  
John P. Nicolucci  
Francis C. Flood  
Michael D. Homier  
Keith A. Castora  
Rebecca S. Davies  
Barbara J. Oyer  
Claire V. Groen  
Kirsten M. McNelly  
Emily L. Matthews  
Benjamin J. Price

Ronald D. Richards, Jr.  
Joseph E. Kozely  
Pamela C. Dausman  
Terrence G. Quinn  
Jacqueline E. Bayley  
Dana M. Bennett  
Radhika P. Drake  
Todd W. Hoppe  
Sarah J. Gabis  
Larry R. Jensen, Jr.  
Alison R. Lievense  
Eleanore M. Schroeder  
Philip E. Hamilton

*Of Counsel*  
Lawrence B. Lindemer  
David VanderHaagen  
Michael G. Harrison  
Allan O. Maki  
Frederick B. Bellamy  
Gilbert M. Frimer  
Deborah J. Williamson  
Peter R. Tolley  
Robert C. Greene  
Scott H. Hogan  
James B. Frakie  
Mark J. Colon  
Craig R. Petersen

Writer's Direct Phone: 517. 371.8155

Fax: 517. 367.7155

Reply To: Lansing

January 16, 2006

**RECEIVED**

**JAN 17 2006**

**UIC BRANCH  
EPA REGION 5**

*Via Federal Express*

UIC Branch (W-16J)  
United States Environmental Protection Agency  
Region V  
77 West Jackson Blvd  
Chicago, IL 60604-3590

Dear Sir:

Re: Permit Number: MI-055-2D-C015 ✓	Permit Number: MI-079-2D-C008 ✓
Facility Name: State Blair #5-21	Facility Name: Simpson #1-9
Permit Number: MI-079-2D-C016 ✓	Permit Number: MI-079-2D-C001 ✓
Facility Name: Wlosinski 2-27	Facility Name: Hogerheide #1-29 SWD
Permit Number: MI-065-2D-C007 ✓	Permit Number: MI-065-2D-C008 ✓
Facility Name: Barber/Kopicko	Facility Name: White Oak #1 SWD
Permit Number: MI-025-2D-C003 <sup>3</sup> ✓	Permit Number: MI-10-12D-C030 ✓
Facility Name: Kibler/Mather	Facility Name: Tel B #2-25
Permit Number: MI-035-2D-C028 ✓	Permit Number: MI-055-2D-C033 ✓
Facility Name: Miller #23-41	Facility Name: Wedow State Blair #2-28

As a matter of introduction, this law office represents SWD Specialities, LLC, which is in the process of acquiring the assignment of several leases and purchasing several specific properties which have underground injection control permits regulated by your agency. In an effort to facilitate the transfer of the above Underground Injection Control permits for these wells under 40 CFR 144.38(b), we are providing you with the current permittee's notification, a copy of a written agreement between the existing and new permittee, which contains information regarding the date of transfer and permit responsibility, coverage and liability and notice demonstrating financial responsibility requirements will

**LANSING:**  
313 S. Washington Square  
Lansing, MI 48933-2193  
PH: 517.371.8100  
FX: 517.371.8200

**FARMINGTON HILLS:**  
Suite 230  
32300 Northwestern Hwy.  
Farmington Hills, MI 48334-1571  
PH: 248.539.9900  
FX: 248.851.7504

**GRAND RAPIDS:**  
Suite 200  
1700 East Beltline, N.E.  
Grand Rapids, MI 49525-2076  
PH: 616.726.2200  
FX: 616.726.2299

December 13, 2005

United States Environmental Protection Agency  
77 West Jackson Blvd.  
Chicago, IL 60604-3590

Permit Number: MI-079-2D-C016  
Facility Name: Wlosinski 2-27

To Whom It May Concern:

This letter is to provide notice of a transfer of an underground injection control permit from Kalkaska Oilfield Services of Kalkaska, Michigan, to SWD Specialties, LLC, 1019 Heatherton Road, P. O. Box 339, Johannesburg, MI 49751 [Bus # 989-732-0735/fax # 989-732-3714], pursuant to 40 CFR 144.38(b)(2). This notice includes a copy of the written agreement between the existing permit holder and the party purchasing the well property. Responsibility for this permit will be transferred on a date after January 15, 2006 when the parties are prepared to close in accordance with the October 5, 2005 Salt Water Disposal Well Purchase and Assignment Agreement.

This transfer will include permit responsibility, coverage and liability between the parties. The buyer, SWD Specialties, LLC, has met the requirements of Section 144.52(a)(7), and has the resources to close, plug and abandon the underground injection operation in a manner prescribed by the Director. See attached documentation.

Sincerely,

KALKASKA OILFIELD SERVICES

By *Rick Root*  
Name: *Rick Root*  
Title: *Area Manager*  
4030 Columbus Drive NE  
P. O. Box 1090  
Kalkaska, MI 49646  
Bus # 616-258-6026

## **UIC PERMIT TRANSFER AGREEMENT**

WHEREAS, Arrow Energy Services, Inc. ("Arrow") and Key Energy Services, Inc. ("Key") entered into an Asset Purchase Agreement on April 29, 2005 to, in part, allow for the transfer of certain underground injection control wells that are permitted in the name of Kalkaska Oilfield Services of Kalkaska, Michigan.

WHEREAS, WellTech Eastern, Inc., Kalkaska Oilfield Services, Inc., Key Energy Services, Inc., and SWD Specialties, LLC entered into a Salt Water Disposal Well Purchase and Assignment Agreement on October 5, 2005 to transfer certain wells.

WHEREAS, in accordance with the aforementioned agreements, SWD Specialties, LLC, will acquire the underground injection control wells: Hogerheide #1-29 SWD, permit MI-079-2D-C001; Simpson #1-9, permit MI-079-2D-C008; White Oak #1 SWD, permit MI-065-2D-C008; Miller #23-41, permit MI-035-2D-C028; Wedow State Blair #2-28, permit MI-055-2D-C033; State Blair #5-21, permit MI-055-2D-C015; Kibler/Mather, permit MI-025-2D-C003; Barber/Kopicko, permit MI-065-2D-C007; Wlosinski #2-27, permit MI-079-2D-C016; and Tel B #2-25, Permit MI-10-12D-C030 ("Underground Injection Control Wells").

WHEREAS, federal regulations require an agreement for transfer of the Underground Injection Control Well permits.


NOW, THEREFORE, in recognition of good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged and confessed, the parties hereto hereby agree as follows:

1. In accordance with 40 CFR 144.38(b)(2), Key and/or its wholly owned subsidiary, Kalkaska Oilfield Services, Inc., shall transfer the permit responsibility, coverage and liability for the Underground Injection Control Wells to SWD Specialties, LLC, on a date after January 15, 2006, when the parties are prepared to close in accordance with the October 5, 2005 Salt Water Disposal Well Purchase and Assignment Agreement.

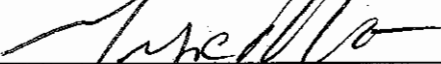
2. SWD Specialties, LLC, can satisfy the financial responsibility requirements of 40 CFR 144.52(a)(7) for the Underground Injection Control Wells on or before the transfer date specified in paragraph 1 of this Agreement;

The parties hereto have executed this Transfer Agreement as of December 31, 2005.

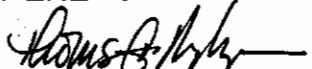
KALKASKA OILFIELD SERVICES, INC.

By   
Name: Rick Root  
Title: Area Manager  
4030 Columbus Drive NE  
P. O. Box 1090  
Kalkaska, MI 49646  
Bus # 616-258-6026

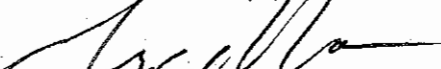
ARROW ENERGY SERVICES, INC.

By   
Name: George Molski  
Title: President  
1019 Heatherton Road  
P. O. Box 339  
Johannesburg, MI 49751  
Bus # 989-732-0735

KEY ENERGY SERVICES, INC.

By   
Name: THOMAS G. MURPHY JR.  
Title: VP- Performance Management  
6 Desta Drive  
Midland, TX 79705  
Bus # 713-851-3721

SWD SPECIALITIES, LLC

By   
Name: George Molski  
Title: Member  
1019 Heatherton Road  
P. O. Box 339  
Johannesburg, MI 49751  
Bus # 989-732-0735

Chief  
Underground Injection Control Branch  
U.S. Environmental Protection Agency  
77 West Jackson Boulevard, WU-16J  
Chicago, IL 60604-3590


Dear Sir:

This letter requests that the attached State Bond # LOC 0511158 in the amount of \$25,000 be considered an acceptable mechanism for meeting the Federal Underground Injection Control program financial responsibility requirement for the following well:

1. Well Name: Wlosinski 2-27 SWD
2. Well Location: Township Rapid River      Range T28 N R7W  
Section 27      NW 1/4 SE 1/4 NW 1/4  
County Kalkaska
3. UIC Application # MI 079-2D-C016
4. SWD Specialties, LLC
5. Address 10915 Heatherton Road, PO Box 339, Johannesburg, MI 49751
6. Phone (989) 732-0735

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitted false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

---

 11/23/05  
George Molsky, Member      Signature      Date Signed

cc: David R. Davis

Irrevocable Letter of Credit # 0511158  
Date: November 15, 2005  
Expiration Date: November 15, 2006  
Wlosinski 2-27 SWD well  
Part 615 Supervisor of Wells, 1994 PA 451, as amended

Supervisor of Wells  
Michigan Department of Environmental Quality  
P.O. Box 30256  
Lansing, MI 48909-7756

We hereby issue our Irrevocable Letter of Credit #0511158 in your favor on behalf of SWD Specialties, LLC, hereinafter known as the Company, for a sum of Twenty Five Thousand Dollars (\$25,000.00), available by your drafts at sight drawn on our institution, Northwestern Bank. Drafts must be marked "Drawn under Northwestern Bank Letter of Credit # 0511158 dated November 15, 2005".

This letter is issued to provide financial assurance to the State of Michigan for the well known as Wlosinski 2-27 SWD.

The Supervisor of Wells may draw on this Letter of Credit in the event (1) that the Department of Environmental Quality issues a Notice of Violation indicating that the Company has failed to comply with the provisions of PART 615 SUPERVISOR OF WELLS, 1994 PA 451, as amended in the final completion of the aforesaid well or wells. "Final Completion" means the locating, drilling, completing, producing, reworking, plugging, filling of pits, and clean up of well site, including the filing of prescribed records and approval thereof by the Supervisor of Wells; or (2) that the Company fails to provide the Supervisor of Wells with an extension of this Letter of Credit or other financial assurance; or (3) that the Company is adjudged insolvent or bankrupt. The Company shall be deemed, for purposes of this Letter of Credit, adjudged bankrupt upon any petition under Title 11 of the United States Code, filed on the Debtors behalf, and an order for relief granted by any of the United States District of Bankruptcy Courts.

If any provision of this Letter of Credit is construed as ineffective by the court of competent jurisdiction, all other provisions of this Letter of Credit shall remain in full effect and be enforceable pursuant to the effective provisions contained herein.

This Letter of Credit is subject to the Uniform Customs and Practices for Documentary Letters of Credit, 1993 revision of the International Chamber of Commerce, Publication No. 500, and as to matters not governed by the Uniform Customs and Practice for Documentary Credits,

aforementioned, shall be governed by, and construed in accordance with the Uniform Commercial Code of the State of Michigan.

Partial drawings are permitted without canceling the Letter of Credit balance. This original Letter of Credit must be submitted to us together with any drawings thereunder for our endorsement of any payments affected by us and or cancellation.

It is a condition of this Letter of Credit that it shall be automatically extended for additional terms of one (1) year from the present or each future expiration date unless we give the Supervisor of Wells and the Company, at least ninety (90) days before said expiration date, written notice by certified mail, return receipt requested, or hand delivery, that we elect to terminate this Credit at the end of its then current term.

In the event we give notice of our election to terminate this Letter of Credit and SWD Specialties, LLC fails to replace this Letter of Credit with other financial assurances acceptable to the Department, you may draw on this Letter of Credit, up to the aggregate amount, less any prior drafts presented by the Department and paid by us, not sooner than thirty (30) days after the date of such notice by presentation of a draft marked "Drawn under Northwestern Bank Letter of Credit No. 0511158", accompanied by a statement purportedly signed by an authorized representative of the Department reading as follows:

"The Michigan Department of Environmental Quality is making this drawing because SWD Specialties, LLC has failed to replace this Letter of Credit with other financial assurances acceptable to the Department."

We hereby engage with you that drafts in conformity with the terms of this Letter of Credit will be duly honored upon presentation if presented on or after November 15, 2005 and on or before November 15, 2006. The amount of each draft must be endorsed on the reverse of this Letter of Credit by the negotiating financial institution.



William H. Green  
Vice President



Form

Revised OMB No. 2000-0042. Approval expires 9-30-96


 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 WASHINGTON, DC 20460

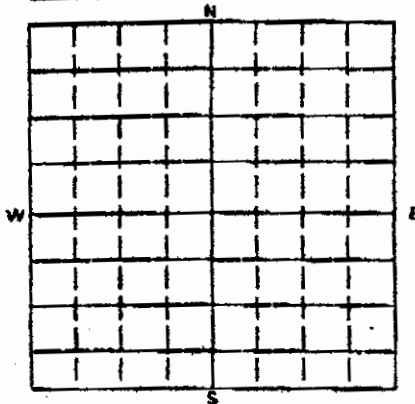
## APPLICATION TO TRANSFER PERMIT

## NAME AND ADDRESS OF EXISTING PERMITTEE

 WellTech Eastern  
 4030 Columbus Dr. NE PO Box 1090  
 Kalkaska, MI 49646

## NAME AND ADDRESS OF SURFACE OWNER

 WellTech Eastern  
 4030 Columbus Dr. NE PO Box 1090  
 Kalkaska MI 49646

 LOCATE WELL AND OUTLINE UNIT ON  
 SECTION PLAT — 640 ACRES


STATE

COUNTY

MI

Kalkaska

PERMIT NUMBER

MI 079-2D-C016

## SURFACE LOCATION DESCRIPTION

NW 1/4 OF NE 1/4 OF NE 1/4 SECTION 27 TOWNSHIP 28N RANGE 07W

## LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface

Location 380 ft. from (N/S) N Line of quarter section

and 920 ft. from (E/W) E Line of quarter section

## WELL ACTIVITY

## WELL STATUS

## TYPE OF PERMIT

☐ Class I☒ Operating☒ Individual☒ Class II☐ Modification/Conversion☐ Area☐ Brine Disposal☐ Proposed

Number of Wells 4

☐ Enhanced Recovery☐ Hydrocarbon Storage☐ Class III☐ Other

Lease Name

Wlosinski

Well Number

2-27 SWD

## NAME(S) AND ADDRESS(ES) OF NEW OWNER(S)

 Kalkaska Oilfield Services  
 4030 Columbus Dr. NE PO Box 1090  
 Kalkaska, MI 49646

## NAME AND ADDRESS OF NEW OPERATOR

 Kalkaska Oilfield Services  
 4030 Columbus Drive PO Box 1090  
 Kalkaska MI 49646

Attach to this application a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them.

The new permittee must show evidence of financial responsibility by the submission of surety bond, or other adequate assurance, such as financial statements or other materials acceptable to the director.

This proposed transfer would be to change ownership and operator to Kalkaska Oilfield Services. This is an in-house transfer due to WellTech Eastern being the parent company of Kalkaska Oilfield Services.

## CERTIFICATION

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

NAME AND OFFICIAL TITLE (Please type or print)

David L. Stoops Disposal Manager

SIGNATURE

DATE SIGNED

11-09-97



## WELL PERMITTEE ORGANIZATION REPORT

Required by authority of Part 615 SUPERVISOR OF WELLS and Part 625 MINERAL WELL, Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Non-submission and/or falsification of this information may result in fines and/or imprisonment.

PURPOSE FOR FILING: ☐ New ☒ Change of Principal or Agent ☐ Address Correction ☐ Name Change

ORGANIZATION Enter the complete organization name, plan, and current business addresses and phone number.

1. Company name Kalkaska Oilfield Services  
(as shown on permit to drill)

Mailing Address P.O. Box 1090  
City, State, Zip Kalkaska MI 49646

Street Address 4030 Columbus Drive, NE  
City, State, Zip Kalkaska MI 49646

Phone 616-258-6026

Fed. ID or Soc. Sec. No. 38-3083604

3. Current Organization Plan (check one)

☒ Corporation

☐ Joint Venture

☐ Limited Partnership

☐ Limited Liability Company

☐ Partnership

☐ Trust

☐ Sole Proprietorship

☐ Other

4. If reorganization or name change, name Bronson Production  
& address of previous P.O. Box 1090 Kalkaska MI 49646  
organization

2. If organization shown in 1 is a subsidiary or an assumed name (dba), give name and address of associated or parent company or person

Parent Company of Kalkaska Oilfield Services

WellTech Eastern, Inc  
5976 Venture Way  
Mt. Pleasant, MI 48858

PRINCIPALS List all corporate officers, directors, incorporators, partners, or shareholders who have the authority to or responsibility for making operational decisions including siting, drilling, operating, producing, reworking, and plugging of wells. Attach extra sheet if needed.

5. Full Name	Title	Address, if different from address in 1 above
Francis John	CEO - President	Two Tower Center, 10th Floor New Brunswick, NJ 08816
KENNETH C. Hill	Vice President	5976 Venture Way, Mt. Pleasant MI 48858
Danny Evatt	Treasurer	6010 Hwy 191 Suite 212, Odessa, TX 79762
William J. Zehnder	Asst. Treasurer	5976 Ventrue Way, Mt. Pleasant MI 48858
David L. Stoops	Disposal Manager	

AGENTS List names of persons, other than employees of the organization, who are authorized to submit applications, workplans, or records pursuant to the above cited Act.

6. Full Name	Company	Address or Phone

Certification "I state that I am authorized to make this report. This report was prepared under my supervision and direction. The facts stated herein are true, accurate and complete to the best of my knowledge."

Name & Title (printed or typed)

Authorized Signature

Date

David L. Stoops Disposal Manager

11-04-97

Mail original and one copy to:

GEOLOGICAL SURVEY DIVISION  
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
PO BOX 30256  
LANSING MI 48909-7756

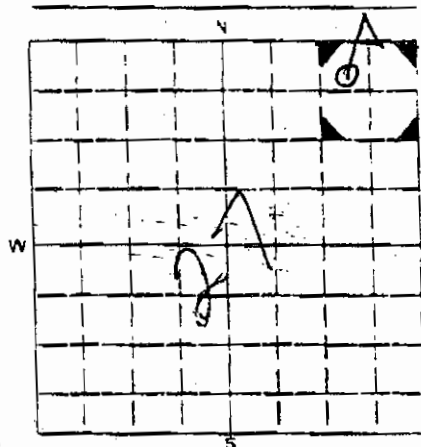


## PLUGGING AND ABANDONMENT PLAN

NAME AND ADDRESS OF FACILITY

WLOSINSKI #2-27 SWD

NAME AND ADDRESS OF OWNER/OPERATOR

WELLTECH, EASTERN  
309 SEELEY Rd. Kalkaska, MI 49646LOCATE WELL AND OUTLINE UNIT ON  
SECTION PLAT -- 640 ACRESSTATE  
MI

COUNTY

Kalkaska

PERMIT NUMBER 36963

MI-079-2D-0016

SURFACE LOCATION DESCRIPTION

NW 1/4 of NE 1/4 of NE 1/4 of Section 27 Township 28N Range 7W

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface Location 380 ft. from (N/S) N line of quarter section  
and 920 ft. from (E/W) E line of quarter section

TYPE OF AUTHORIZATION

- ☒
- Individual Permit
- 
- ☐
- Area Permit
- 
- ☐
- Rule

Number of Wells 1

WELL ACTIVITY

- ☐
- CLASS I
- 
- ☒
- CLASS II
- 
- ☐
- Brine Disposal
- 
- ☐
- Enhanced Recovery
- 
- ☐
- Hydrocarbon Storage
- 
- ☐
- CLASS III

Lease Name Wlosinski

Well Number 2-27 SWD

## CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT(LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
11 3/4	42#	90'	90'	DRIVEN
8 5/8	32#	950'	950'	12 1/2
5 1/2	15.5#	2990'	2990'	7 7/8

## METHOD OF EMPLACEMENT OF CEMENT PLUGS

- ☐
- The Balance Method
- 
- ☐
- The Dump Bailer Method
- 
- ☐
- The Two-Plug Method
- 
- ☐
- Other

## CEMENTING TO PLUG AND ABANDON DATA

	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inches)	5 1/2	5 1/2	5 1/2				
Depth to Bottom of Tubing or Drill Pipe (ft.) CIBP	2400'	950'	140'				
Sacks of Cement To Be Used (each plug)	20	20	15				
Slurry Volume To Be Pumped (cu. ft.)	23.6	23.6	17.5				
Calculated Top of Plug (ft.)	2125'	675'	surface				
Measured Top of Plug (if tagged ft.)							
Slurry Wt. (Lb./Gal.)	15.6	15.6	15.6				
Type Cement or Other Material (Class III)	class A	class A	class A				

## LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (If any)

From	To	From	To
2422	2594	Peris	Formation Dundee

Estimated Cost to Plug Wells

## CERTIFICATION

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

NAME AND OFFICIAL TITLE (Please type or print)

Stoke Kniss / Asst. Mgr.

SIGNATURE

DATE SIGNED

3-28-96

Description

Surface

Top Of Cement SURF (ft.)Top Of Cement NA (ft.)Top Of Cement SURF (ft.)Perforations: 2422  
2594Hole Size 7 7/8 (in.)Surface Casing 950 (ft.)USDW Base 850 (ft.)\* Intermediate Casing NA (ft.)

Packer Depth \_\_\_\_\_ (ft.)

Long String Casing \_\_\_\_\_ (ft.)

\* Depth \_\_\_\_\_ (ft.)

\*\* Add Any Additional Information  
\* May Not Apply

WLOSINSKI 2-27 SWN

Perm = E MI-079-20-2016

Surface

Top Plug Interval

SURF (ft.) to140 (ft.)

\* USDW Base Plug Interval

950 (ft.) to 675 (ft.)

\* Intermediate Cut/Rip Point Plug Interval

NA (ft.) to NA (ft.)

\* Middle Plug Interval

NA (ft.) to NA (ft.)

\* Long String Cut/Rip Point Plug Interval

NA (ft.) to NA (ft.)

Bottom Plug Depth

2400 (ft.) to 2125 (ft.)\* Mechanical Plug Depth 2400 (ft.)\*\* Add Any Additional Information  
\* May Not ApplySurface Casing 950 (ft.)USDW Base 850 (ft.)\* Intermediate Cut/Rip Depth NA (ft.)\* Intermediate Casing NA (ft.)\* Long String Cut/Rip Depth NA (ft.)Long String Casing 2400 (ft.)\* Depth 2991 (ft.)

## LIST OF ALL OPEN AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED

Interval Open (Meter/Perforations/Varied Casing)	From	To	Formation Name
<u>2422 - 2594'</u> PERFORATIONS	<u>2422</u>	<u>2594</u>	<u>DUNDEE LIMESTONE</u>


 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 WASHINGTON, D. C. 20460

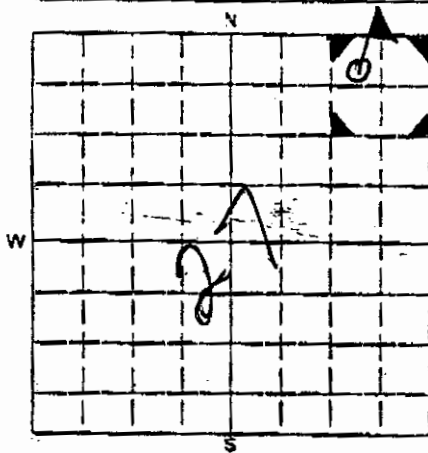
**PLUGGING AND ABANDONMENT PLAN**

NAME AND ADDRESS OF FACILITY

WLOSINSKI #2-27 SWD

NAME AND ADDRESS OF OWNER/OPERATOR

 Kalkaska Oilfield Services  
 4030 Columbus Drive NE PO Box 1090  
 Kalkaska MI 49646

 LOCATE WELL AND OUTLINE UNIT ON  
 SECTION PLAT — 640 ACRES

 STATE  
 MI

COUNTY

Kalkaska

 PERMIT NUMBER 36963  
 MI-079-2D-0016

SURFACE LOCATION DESCRIPTION

NW 1/4 of NE 1/4 of NE 1/4 of 1/4 of Section 27 Township 28N Range 7W

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface Location 380 ft. from (N/S) N Line of quarter section

and 920 ft. from (E/W) E Line of quarter section

TYPE OF AUTHORIZATION

- ☒ Individual Permit  
☐ Area Permit  
☐ Rule

Number of Wells 1

WELL ACTIVITY

- ☐ CLASS I  
☒ CLASS II  
☐ Brine Disposal  
☐ Enhanced Recovery  
☐ Hydrocarbon Storage  
☐ CLASS III

Lease Name Wlosinski

Well Number 2-27 SWD

CASING AND TUBING RECORD AFTER PLUGGING

METHOD OF EMPLACEMENT OF CEMENT PLUGS

- ☐ The Balance Method  
☐ The Dump Bailer Method  
☐ The Two-Plug Method  
☐ Other

SIZE	WT(LB./FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
11 3/4	42#	90'	90'	DRIVEN
8 5/8	32#	950'	950'	12 1/2
5 1/2	15.5#	2990'	2990'	7 7/8

CEMENTING TO PLUG AND ABANDON DATA:

	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inches)	5 1/2	5 1/2	5 1/2				
Depth to Bottom of Tubing or Drill Pipe (ft.) CIBP	2400'	950'	140' ce				
Sacks of Cement To Be Used (each plug)	20	20	15				
Slurry Volume To Be Pumped (cu. ft.)	23.6	23.6	17.5				
Calculated Top of Plug (ft.)	2125'	675'	surface				
Measured Top of Plug (if tagged ft.)							
Slurry Wt. (Lb./Gal.)	15.6	15.6	15.6				
Type Cement or Other Material (Class III)	class A	class A	class A				

LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (If any)

From	To	From	To
2422	2594	Peris	Formation Dundee

Estimated Cost to Plug Wells

**CERTIFICATION**

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

NAME AND OFFICIAL TITLE (Please type or print)

David L. Stoops Disposal Manager

SIGNATURE

DATE SIGNED

11-09-97

## ORIGINAL WELL CONSTRUCTION DURING OPERATION

## PLUGGING AND ABANDONMENT CONSTRUCTION

Description

Surface

Top Of Cement SURF (ft.)Surface Casing 950 (ft.)USDW Base 850 (ft.)Top Of Cement NA (ft.)\* Intermediate Casing NA (ft.)Top Of Cement SURF (ft.)Perforations: 2422  
2594Hole Size 7 7/8 (in.)

Packer Depth \_\_\_\_\_ (ft.)

Long String Casing \_\_\_\_\_ (ft.)

\* Depth \_\_\_\_\_ (ft.)

\*\* Add Any Additional Information  
\* May Not Apply

WLOSINSKI 2-27 SWD

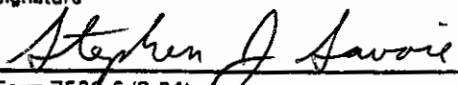
PERM E MI-079-20-2016

Surface

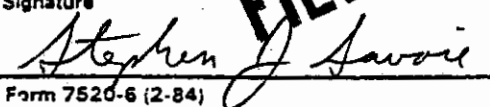
Top Plug Interval  
SURF (ft.) to  
140 (ft.)\* USDW Base Plug Interval  
950 (ft.) to 675 (ft.)\* Intermediate Cut/Rip Point Plug Interval  
NA (ft.) to NA (ft.)\* Middle Plug Interval  
NA (ft.) to NA (ft.)\* Long String Cut/Rip Point Plug Interval  
NA (ft.) to NA (ft.)Bottom Plug Depth  
2400 (ft.) to 2125 (ft.)\* Mechanical Plug Depth 2400 (ft.)\*\* Add Any Additional Information  
\* May Not ApplySurface Casing 950 (ft.)USDW Base 850 (ft.)\* Intermediate Cut/Rip Depth NA (ft.)\* Intermediate Casing NA (ft.)\* Long String Cut/Rip Depth NA (ft.)Long String Casing 2400 (ft.)\* Depth 2991 (ft.)

## LIST OF ALL OPEN AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED

Specify Open Hole/Perforations/Varied Casing	From	To	Formation Name
<del>140 - 2594</del> PERFORATIONS	2422	2594	DUNDIE LIMESTONE

Form 4	<b>UNITED STATES ENVIRONMENTAL PROTECTION AGENCY</b> <b>UNDERGROUND INJECTION CONTROL</b> <b>PERMIT APPLICATION</b> (Collected under the authority of the Safe Drinking Water Act, Sections 1421, 1422, 40 CFR 144)										I. EPA ID NUMBER			
UIC											T/A C			
READ ATTACHED INSTRUCTIONS BEFORE STARTING FOR OFFICIAL USE ONLY														
Application approved mo day year			Date Received mo day year			Permit/Well Number				Comments				
						MIS #36963								
II. FACILITY NAME AND ADDRESS						III. OWNER/OPERATOR AND ADDRESS								
Facility Name Wlosinski 2-27 SWD						Owner/Operator Name Terra Energy Ltd. / Tenexco, Inc.								
Street Address NE 1/4 Section 27, Rapid River Twp						Street Address 1503 N. Garfield Rd.								
City T28N-R7W Kalkaska Cty.				State MI		ZIP Code		City Traverse City			State MI		ZIP Code 49684	
IV. OWNERSHIP STATUS (Mark 'x')						V. SIC CODES								
<input type="checkbox"/> A. Federal <input type="checkbox"/> B. State <input checked="" type="checkbox"/> C. Private <input type="checkbox"/> D. Public <input type="checkbox"/> E. Other (Explain)														
VI. WELL STATUS (Mark 'x')														
<input checked="" type="checkbox"/> A.		Date Started mo day year		<input type="checkbox"/> B. Modification/Conversion		<input type="checkbox"/> C. Proposed								
Operating		8 31 83												
VII. TYPE OF PERMIT REQUESTED (Mark 'x' and specify if required)														
<input checked="" type="checkbox"/> A. Individual <input type="checkbox"/> B. Area				Number of Existing wells		Number of Proposed wells		Name(s) of field(s) or project(s)						
				1		1		Rapid River 27						
VIII. CLASS AND TYPE OF WELL (see reverse)														
A. Class(es) (enter code(s))			B. Type(s) (enter code(s))			C. If class is "other" or type is code "x," explain				D. Number of wells per type (if area permit)				
II			D											
IX. LOCATION OF WELL(S) OR APPROXIMATE CENTER OF FIELD OR PROJECT														
C		A. Latitude		B. Longitude		Township and Range						X. INDIAN LANDS (Mark 'x')		
I		Deg Min Sec		Deg Min Sec		Twp Range		Sec 1/4 Sec		Feet from		Line		
		28N 7W		27 NE		380		N		920		E		
												<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
XI. ATTACHMENTS														
(Complete the following questions on a separate sheet(s) and number accordingly; see instructions) FOR CLASSES I, II, III (and other classes) complete and submit on separate sheet(s) Attachments A — U (pp 2-6) as appropriate. Attach maps where required. List attachments by letter which are applicable and are included with your application:														
XII. CERTIFICATION														
I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)														
A. Name and Title (Type or Print)										B. Phone No. (Area Code and No.)				
Stephen J. Savoie, Geologist										(616) 941-7919				
C. Signature										D. Date Signed				
										11/16/87				



<b>4</b>	<b>EPA</b>	<b>UNITED STATES ENVIRONMENTAL PROTECTION AGENCY</b> <b>UNDERGROUND INJECTION CONTROL</b> <b>PERMIT APPLICATION</b> <i>(Collected under the authority of the Safe Drinking Water Act, Sections 1421, 1422, 40 CFR 144)</i>				<b>I. EPA ID NUMBER</b> <div style="border: 1px solid black; padding: 5px; display: inline-block; transform: rotate(-2deg);"> <b>RECEIVED</b>  NOV 23 1987 </div>					
UIC		<b>READ ATTACHED INSTRUCTIONS BEFORE STARTING FOR OFFICIAL USE ONLY</b>									
Application approved mo day year		Date Received mo day year		Permit/Well Number				Comments			
				MIS #36963 - ME-079-2D-0016				EPA = REGION V			
<b>II. FACILITY NAME AND ADDRESS</b>						<b>III. OWNER/OPERATOR AND ADDRESS</b>					
Facility Name Wlosinski 2-27 SWD						Owner/Operator Name Terra Energy Ltd. / Tenexco, Inc.					
Street Address NE/4 Section 27, Rapid River Twp						Street Address 1503 N. Garfield Rd.					
City T28N-R7W Kalkaska Cty.				State MI		ZIP Code		City Traverse City		State MI	
<b>IV. OWNERSHIP STATUS (Mark 'x')</b>						<b>V. SIC CODES</b>					
<input type="checkbox"/> A. Federal <input type="checkbox"/> B. State <input checked="" type="checkbox"/> C. Private <input type="checkbox"/> D. Public <input type="checkbox"/> E. Other (Explain)											
<b>VI. WELL STATUS (Mark 'x')</b>											
<input checked="" type="checkbox"/> A. Operating		Date Started mo day year		<input type="checkbox"/> B. Modification/Conversion				<input type="checkbox"/> C. Proposed			
		8 31 83									
<b>VII. TYPE OF PERMIT REQUESTED (Mark 'x' and specify if required)</b>											
<input checked="" type="checkbox"/> A. Individual				<input type="checkbox"/> B. Area		Number of Existing wells    1		Number of Proposed wells    1		Name(s) of field(s) or project(s) Rapid River 27	
<b>VIII. CLASS AND TYPE OF WELL (see reverse)</b>											
A. Class(es) (enter code(s))		B. Type(s) (enter code(s))		C. If class is "other" or type is code "x," explain				D. Number of wells per type (if area permit)			
II		D									
<b>IX. LOCATION OF WELL(S) OR APPROXIMATE CENTER OF FIELD OR PROJECT</b>											
A. Latitude			B. Longitude			Township and Range			X. INDIAN LANDS (Mark 'x')		
Deg Min Sec			Deg Min Sec			Twsp Range Sec 1/4 Sec			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
1 28N 7W			27 NE			380					
<b>XI. ATTACHMENTS</b>											
(Complete the following questions on a separate sheet(s) and number accordingly; see instructions) FOR CLASSES I, II, III (and other classes) complete and submit on separate sheet(s) Attachments A — U (pp 2-6) as appropriate. Attach maps where required. List attachments by letter which are applicable and are included with your application:											
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Stephen J. Savoie, Geologist								(616) 941-7919			
C. Signature								D. Date Signed			
								11/16/87			

Kalkaska

Del Total



Form <b>4</b> UIC	<b>EPA</b> UNITED STATES ENVIRONMENTAL PROTECTION AGENCY <b>UNDERGROUND INJECTION CONTROL PERMIT APPLICATION</b> (Collected under the authority of the Safe Drinking Water Act, Sections 1421, 1422, 40 CFR 144)		I. EPA ID NUMBER U	
READ ATTACHED INSTRUCTIONS BEFORE STARTING FOR OFFICIAL USE ONLY				
Application approved mo day year		Date Received mo day year		Permit/Well Number M1-079-2D-0016 MIS #36563
Facility Name Wlosinski 2-27 SWD		Owner/Operator Name TENEXCO, Inc.		
Street Address NE/4 Section 27, Rapid River Twp		Street Address 414 Clinton Place, Suite 106		
City T28N-R7W Kalkaska Cty.		State MI	ZIP Code	City River Forest
State MI		ZIP Code		State IL
ZIP Code		ZIP Code 60305		
IV. OWNERSHIP STATUS (Mark 'x')		V. SIC CODES		
<input type="checkbox"/> A. Federal <input type="checkbox"/> B. State <input checked="" type="checkbox"/> C. Private <input type="checkbox"/> D. Public <input type="checkbox"/> E. Other (Explain)				
VI. WELL STATUS (Mark 'x')				
<input checked="" type="checkbox"/> A. Operating		<input type="checkbox"/> B. Modification/Conversion <input type="checkbox"/> C. Proposed		
Date Started mo day year 8 31 83				
VII. TYPE OF PERMIT REQUESTED (Mark 'x' and specify if required)				
<input checked="" type="checkbox"/> A. Individual <input type="checkbox"/> B. Area		Number of Existing wells 1	Number of Proposed wells 1	Name(s) of field(s) or project(s) Rapid River 27
VIII. CLASS AND TYPE OF WELL (see reverse)				
A. Class(es) (enter code(s)) II		B. Type(s) (enter code(s)) D		C. If class is "other" or type is code 'x,' explain
D. Number of wells per type (if area permit)				
IX. LOCATION OF WELL(S) OR APPROXIMATE CENTER OF FIELD OR PROJECT				
A. Latitude Deg Min Sec 1		B. Longitude Deg Min Sec 28N 7W 27		Township and Range 28N 7W 27 NE 380 Line N Feet from 920 Line E
X. INDIAN LANDS (Mark 'x') <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
XI. ATTACHMENTS (Complete the following questions on a separate sheet(s) and number accordingly; see instructions) FOR CLASSES I, II, III (and other classes) complete and submit on separate sheet(s) Attachments A — U (pp 2-6) as appropriate. Attach maps where required. List attachments by letter which are applicable and are included with your application:				
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A. Name and Title (Type or Print) Stephen J. Savoie, Geologist			B. Phone No. (Area Code and No.) (616) 941-7919	
C. Signature <i>Stephen J. Savoie</i>			D. Date Signed 1/6/88	

KALKASKA

DEL TORAL

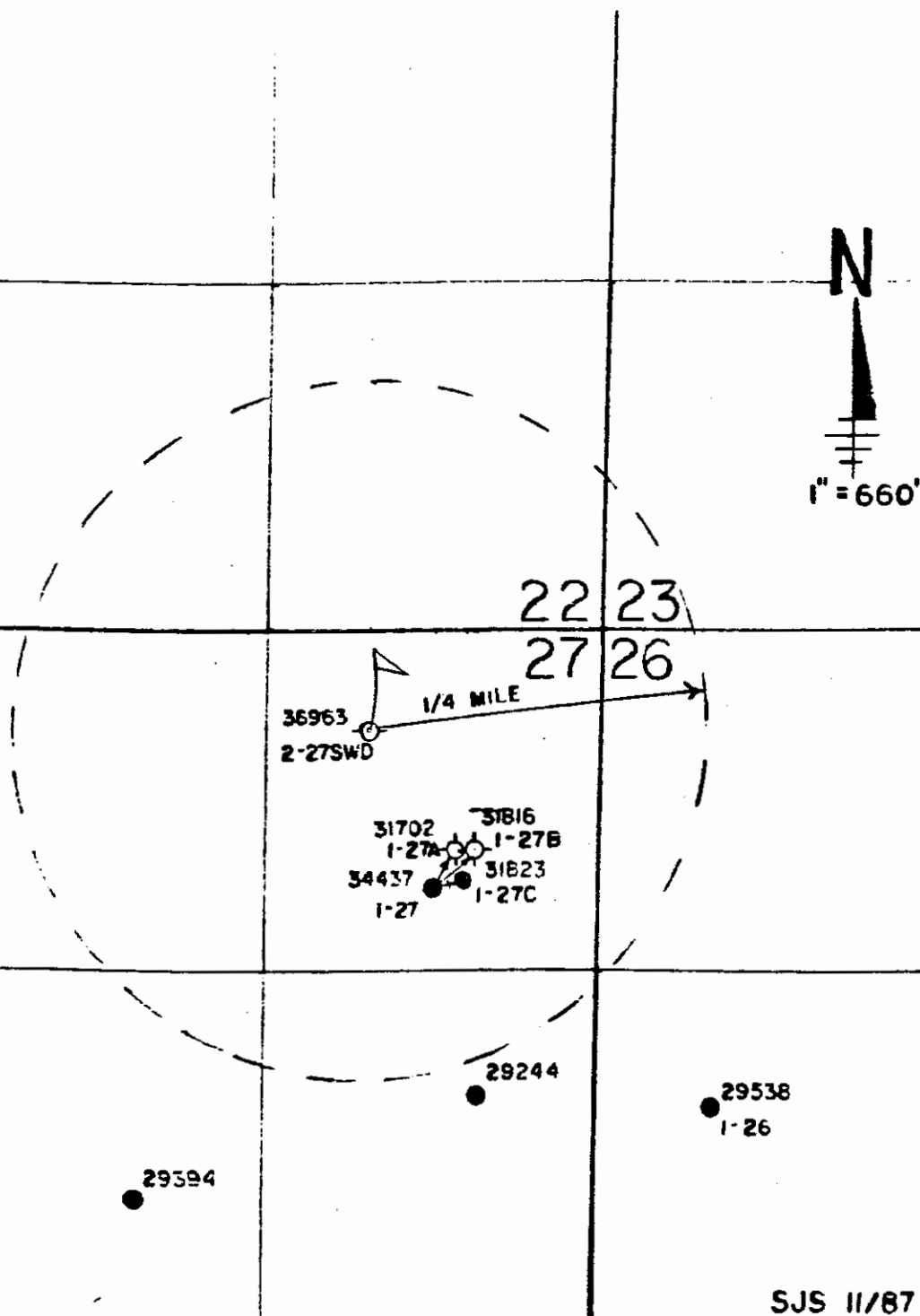
Form <b>4</b> UIC	 <b>EPA</b>	<b>UNITED STATES ENVIRONMENTAL PROTECTION AGENCY</b> <b>UNDERGROUND INJECTION CONTROL</b> <b>PERMIT APPLICATION</b> <i>(Collected under the authority of the Safe Drinking Water Act, Sections 1421, 1422, 40 CFR 144)</i>	1. EPA ID NUMBER <div style="border: 1px solid black; height: 20px; width: 100%;"></div>																																												
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A. Latitude			B. Longitude			Township and Range																																									
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Feet from	Line	Feet from	Line																																												
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XI. ATTACHMENTS																																															
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C. Signature 			D. Date Signed <b>1/6/88</b>																																												

KALKASKA

DEL TORAL

ATTACHMENT "A"  
WLOSINSKI #2-27 SWD  
TENEXCO, INC.

ATTACHMENT "B"  
WLOSINSKI #2-27 SWD  
TENEXCO, INC.



WLOSINSKI #2-27SWD  
1/4 Mile Radius Map  
NE/4 Sec 27 T28N-R7W

ATTACHMENT "C"

WLOSINSKI #2-27 SWD

TENEXCO, INC.

**Corrective Action Plan:**

Should upward fluid migration occur through the well bore of any previously unknown, improperly plugged or unplugged well in the area of review due to injection of permitted fluid, injection will be shut-in until proper plugging can be accomplished. Any flowage from such undiscovered wells will be considered noncompliance with this permit. Should any problem develop in the casing of the injection well, injection will be shut-in until such repairs can be made as to remedy the situation.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

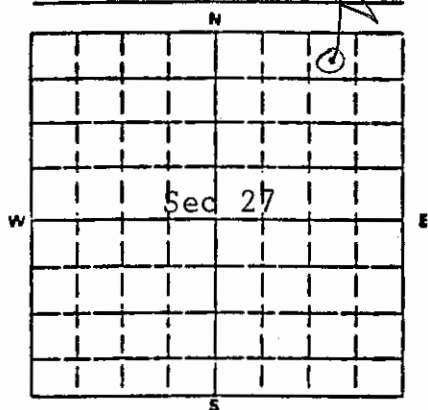
## WELL REWORK RECORD

## NAME AND ADDRESS OF PERMITTEE

TENEXCO, INC.  
414 Clinton Place, Suite 106  
River Forest, ILL 60305

## NAME AND ADDRESS OF CONTRACTOR

RHEA WELL SERVICE  
403 Pine St.  
Kalkaska, MI 49646

LOCATE WELL AND OUTLINE UNIT ON  
SECTION PLAT — 640 ACRES

STATE

MI

COUNTY

Kalkaska

PERMIT NUMBER

MI-079-2D-0016

## SURFACE LOCATION DESCRIPTION

NW 1/4 OF NE 1/4 OF NE 1/4 SECTION 27 TOWNSHIP 28N RANGE 7W

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface Location 380 ft. from (N/S) N Line of quarter section  
and 920 ft. from (E/W) E Line of quarter section

## WELL ACTIVITY

- ☒ Brine Disposal  
☐ Enhanced Recovery  
☐ Hydrocarbon Storage

Lease Name  
Wlosinski

## Total Depth Before Rework

4400

## Total Depth After Rework

2734

## Date Rework Commenced

10/19/88

## Date Rework Completed

10/21/88

## TYPE OF PERMIT

☒ Individual  
☐ Area  
Number of Wells 1

Well Number  
2-27 SWD

## WELL CASING RECORD — BEFORE REWORK

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	
13 3/4	100	Driven				
8 5/8	900	Circ to sur	Class A			
5 1/2	4400	Circ to sur	Class A	2824	4334	25,000 gal 20% HCL

## WELL CASING RECORD — AFTER REWORK (Indicate Additions and Changes Only)

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	
5 1/2	2734	plug back with 180 Sx Glass A top of plug at 2734		See attached		2500 gal 15% HCL 2500 gal 28% HCL

DESCRIBE REWORK OPERATIONS IN DETAIL  
USE ADDITIONAL SHEETS IF NECESSARY

See attached

## WIRE LINE LOGS. LIST EACH TYPE

## Log Types

## Logged Intervals

Neutron

2734-2300

## CERTIFICATION

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32).

NAME AND OFFICIAL TITLE (Please type or print)

SIGNATURE

DATE SIGNED

Stephen J. Savoie, Geologist

10/24/88



DAILY COMPLETION REPORT  
TERRA ENERGY, LTD.

WELL NAME:	WLOSINSKI #2-27 SWD	ELEV:	KB:
LOCATION:	Rapid River Twp., Kalkaska County	GL:	
CONTRACTOR:	Rhea Well Services/Rig #105	RF:	
DATE:	10-19-88	PTD:	

---

10-19-88

1:00 p.m.- Moved In & Rigged up Rhea Well Services Rig #105. Dug small reserve pit, installed liner. Flowed well to frac tanks for 5 hrs - recovered approximately 800 bbls brine. Nippled up BOP's, released packer and S.I.O.N.

Daily cost: \$ 2,250.00

10-20-88 Bleed pressure, removed wellhead, TOH with 90 jts of 2-7/8" tubing and packer. TIH with Baker K-1 cement retainer on 89 jts on 2-7/8", set retainer at 2765'. Rigged up Dowell pump truck, pressure tested tubing to 2500# for 5 minutes - tested OK. Pressure tested casing for 5 minutes - tested OK. Estimated injection rate down tubing, pumped 17 bbls fresh water at 2 bpm at 1050#. Pulled out of retainer, circulated hole down with fresh water, stung back into retainer, squeezed perfs 2824-4334' with 180 sx Class A with .8% DI27. Pulled out of retainer, layed down 1 jt, left 30' cement above retainer, reversed tubing clean. Rigged down Dowell, TOH with 2-7/8" tubing, secured well and S.I.O.N.

Daily cost: \$ 6,700.00

Cum. cost: \$ 8,950.00

10-21-88 Rigged up NL McCullough, run in hole with Neutron log, log from plug back TD 2734' to 2300'. Correlated with Schlumberger Neutron Porosity log. TIH with 4" casing gun, perforated 2 JSPF from 2582-94', 2568-74', 2548-52', 2536-42', 2424-30', 2486-92', 2472-76', and 2422-28'. TIH with Baker AD-1 tension packer seating nipple on 84 jts of 2-7/8" tubing to 2603'. Rigged up Dowell, broke circulation to ensure hole was balanced. Spotted 4-1/2 bbls 15% HCL across perfs 2414-2594', pulled packer to 2367', pumped 40 bbls coreban inhibited fresh water down casing. Nippled down BOP's, set packer with 18,000#. Nippled up wellhead, put 500# on casing. Dowell acidized perfs with 2500 gallons 15%, followed by 2500 gallons 28%. Flushed with 5000 gallons fresh water.

Maximum pressure = 900#

Minimum pressure = 500#

Average inj. rate = 5 BPM at 700#.

Final pump pressure = 500#

Injection test of 1-1/4 bbl p/min at 500# with fresh water.

S.I.O.N.

Daily cost: \$ 12,150.00

Cum. cost: \$ 21,100.00

STATE OF MICHIGAN  
DEPARTMENT OF NATURAL RESOURCES  
**LOG OF OIL, GAS, DISPOSAL OR STORAGE WELL (ACT 61)**  
Submit in **DUPLICATE** Within 30 Days after Well Completion

PERMIT NUMBER <b>36963</b>
DEEPENING PERMIT NUMBER

NAME(S) & ADDRESS OF OWNER(S) SHOWN ON PERMIT <b>Tenexco, Inc.</b> <b>414 Clinton Place, Suite 106</b> <b>River Forest, IL 60305</b>				NAME & ADDRESS OF DRILLING CONTRACTOR(S) <b>Escor Drilling</b> <b>4273 Corporate Way</b> <b>Mt. Pleasant, MI 48858</b>			
LEASE NAME(S) & WELL NUMBER SHOWN ON PERMIT <b>Wlosinski 2-27 (SWD)</b>						DIRECTIONALLY DRILLED YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
SURFACE LOCATION <b>NW NE NE</b>		SECTION <b>27</b>		TOWNSHIP <b>28N</b>		RANGE <b>7W</b>	
TOWNSHIP NAME <b>Rapid River</b>							
FOOTAGES (North/South) <b>380</b> Ft. from <b>North</b> Line and <b>920</b> Ft. from <b>East</b> Line of quarter section						COUNTY NAME <b>Kalkaska</b>	
SUBSURFACE LOCATION		SECTION		TOWNSHIP		RANGE	
TOWNSHIP NAME							
FOOTAGES (North/South) Ft. from _____ Line and _____ Ft. from _____ Line of quarter section						COUNTY NAME	
DRILLING BEGUN <b>8/19/83</b>		TOTAL DEPTH OF WELL Driller <b>4400</b> Log <b>4407</b>		TYPE WELL <b>SWD</b>		ELEVATIONS	
DRILLING COMPLETED <b>8/27/83</b>		FORMATION AT T.D. <b>Bass Island</b>		FT. DRLD. - ROTARY TOOLS From <b>Surf</b> To <b>TD</b>		K.B. <b>1085.7</b>	R.F. <b>1084.2</b>
WELL COMPLETED <b>8/31/83</b>		PRODUCING FORMATION(S) _____		FT. DRLD. - CABLE TOOLS From _____ To _____		R.T.	Grd. <b>1071.5</b>

**CASING, CASING LINERS AND CEMENTING**

**PERFORATIONS**

SIZE	WHERE SET	CEMENT	Ft. Pulled	DATE	NUMBER HOLES	INTERVAL PERFORATED	OPEN	
13 3/8	100'		None				YES	NO
8 5/8	900'	Circ to surf	None	See	Attached			
5 1/2	4400'	1120 sks	None					
		(circ to surf)						

**GROSS PAY INTERVALS**

**ALL OTHER OIL AND GAS SHOWS OBSERVED OR LOGGED**

FORMATION	OIL OR GAS	FROM	TO	FORMATION	OIL OR GAS	DEPTH	WHERE OBSERVED (X)					
							Samples	Odor	Pits	Mud Line	Gas Log	Fill Up

**STIMULATION BY ACID OR FRACTURING**

**WATER FILL UP (F.U.) OR LOST CIRCULATION (L.C.) (X)**

DATE	Interval Treated	Materials and amount used	FORMATION	F.U.	L.C.	DEPTH	AMOUNT
	All Perfs	25,000 G 20%					

**MECHANICAL LOGS, LIST EACH TYPE RUN**

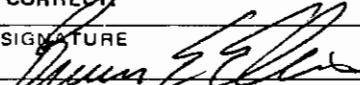
**DEPTH CORRECTION DEVIATION SURVEY PLUGGED BACK**

Brand	(X)	LOG TYPES	LOGGED INTERVALS	DEPTH	CORRECT'N	RUN AT	DEGREES	YES	NO	DEPTH
Schlumberger	X	SNP - GR	200' - TD							
Birdwell										
Other										

**PRODUCTION TEST DATA**

OIL - Bbls/day	GRAVITY - °API	CONO. Bbls/day	GAS - MCF/day	WATER - Bbls/day	H <sub>2</sub> S - Grains/100 cu. ft.	B.H.P. AND DEPTH
SWD	---	---	---	---	---	---

I AM RESPONSIBLE FOR THIS REPORT. THE INFORMATION IS COMPLETE AND CORRECT

DATE <b>1/27/84</b>	NAME AND TITLE (PRINT) <b>Bruce Ellis/Operations Manager</b>	SIGNATURE 
------------------------	---	---

STATE OF MICHIGAN  
DEPARTMENT OF NATURAL RESOURCES  
LOG OF OIL, GAS, DISPOSAL OR STORAGE WELL (ACT 61)  
DUPLICATE Within 90 Days after Well Completion

MAR 02 1981

PERMIT NUMBER  
31437

DEEPENING PERMIT NUMBER

NAME & ADDRESS OF OWNER(S) SHOWN ON PERMIT James - Ward Drilling Company N. Mission Road St. Pleasant, MI				NAME & ADDRESS OF DRILLING CONTRACTOR(S) James - Ward Drilling Company N. Mission Road St. Pleasant, MI			
PLEASE NAME & WELL NUMBER SHOWN ON PERMIT 31437-1-27						CORRECTIONALLY DRILLED YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
SURFACE LOCATION 1/4 - 1/4		SECTION 27	TOWNSHIP 28N	RANGE 1W	TOWNSHIP NAME Barid River		
FOOTAGES North/South 0-100		Line and 0-100		(East-West) 0-100		COUNTY NAME Halkaska	
SURFACE LOCATION 1/4 - 1/4		SECTION 27	TOWNSHIP 28N	RANGE 1W	TOWNSHIP NAME Barid River		
FOOTAGES North/South 0-100		Line and 0-100		(East-West) 0-100		COUNTY NAME Halkaska	
DRILLING REGION 1/4 - 1/4		TOTAL DEPTH OF WELL Driller 31437 Log 31437		TYPE WELL Oil Well		ELEVATIONS	
DRILLING COMPLETED 1/30/81		FORMATION AT T.D. Galina-Niagaran		FT. DRD - ROTARY TOOLS From Surface To		K.B. 1096.1 R.F. 1096.5	
WELL COMPLETED		PRODUCING FORMATION(S)		FT. DRD - CABLE TOOLS From 1/2 To		R.T. Grd 1094.5	

CASING, CASING LINERS AND CEMENTING

PERFORATIONS

SIZE	WHERE SET	CEMENT	Ft. Pulled	DATE	NUMBER HOLES	INTERVAL PERFORATED	OPEN	
2 1/2"	2	150 SXS.	none				YES	NO
2 1/2"	244-102	200 SXS.	none	5-21-81	11	6329-6334		X
2 1/2"	244-102	200 SXS.	none	5-26-81	16	6320-6325		X
				5-10-81		6405-6405	X	
				5-25-81	12	6510-6516	X	

same surface as E.N. 28872, 31702, 31916, 31923

GROSS PAY INTERVALS

ALL OTHER OIL AND GAS SHOWS OBSERVED OR LOGGED

FORMATION	OIL OR GAS	FROM	TO	FORMATION	OIL OR GAS	DEPTH	WHERE OBSERVED (X)					
Galina	gas and oil	6410	6520				Sam. pres	Depth	Pres	Mud Log	Gas Log	Fid. Log

STIMULATION BY ACID OR FRACTURING WATER FILL UP IF U) OR LOST CIRCULATION (L C) (X) (S)

DATE	Interval Treated	Materials and amount used	FORMATION	F U	L C	DEPTH	AMOUNT
5-21-81	6329-6334	1000 gal. 30% HCl					
5-26-81	6320-6325	1000 gal. 30% HCl					
5-10-81	6405-6405	1000 gal. 30% HCl					
5-25-81	6510-6516	1000 gal. 30% HCl					

MECHANICAL LOGS LIST EACH TYPE RUN

DEPTH CORRECTION DEVIATION SURVEY PLUGGED BACK

INTERVALS DEPTH APPROX. RUN AT DEPT. YES NO

P. O. Box 660  
Tyler, Texas 75701

P. O. Box 2218  
Dallas, Texas 75221

WELL NO.	PERMIT NO.	C.P. NO.
1-27	28872	
SECTION	TWP.	RANGE
27	25N	7W

COUNTY  
Kalkaska

Ft. from		North	Line and	Ft. from		East	Line of quarter section
990			330				

DATE DRILLING BEGUN	DATE DRILLING COMPLETED	DATE WELL COMPLETED	TYPE OF WELL
5-23-72	6-17-72	7-11-72	Oil

FORMATION COMPLETED IN	TOTAL DEPTH	ELEVATION	KB	RB	RT	RF	GRD
Magellan	6850		1194				1091

TERRY TOOLS			CABLE TOOLS		
From		Feet to	From		Feet to
	0				
		6850			

## ENTREPRENEURIAL DEVIATION SURVEY

## DEVIATION SURVEY

MECHANICAL LOGS RUN[illegible]

27-28N-7W  
Rapid River Twp. (Kalkaska Co.)

Oil Field (10)  
Dry Hole  
MTD 6760  
TVD 6743 in Niagaran (46)

Wiser Oil Company

Permit No. 31702

Note: Drilled from Same Surface Location as Permit No. 28872.

L. J. Wlosinski et al #1-27A

Surface Location: SE 1/4 NE 1/4 NE 1/4 Section 27, T.28N, R.7W.  
990 feet from North and 330 feet from East line of quarter section

Subsurface Location: SE 1/4 NE 1/4 NE 1/4 Section 27, T.28N, R.7W.  
860 feet from North and 460 feet from East line of quarter section.

This well record assembly is a compilation of well data filed by or on behalf of the operator, as required by Act 61, P.A. 1939, as amended; formation tops and stratigraphic intervals determined or confirmed where possible by Geological Survey Division personnel from mechanical logs and preliminary information collected while drilling was in progress. Records compiled by Michael Morris, Geologist.

Elevations: 1106.5 Kelly Bushing (use for datums), 1091 Ground

Formation tops and stratigraphic intervals determined or confirmed by Geological Survey Division personnel from Schlumberger Compensated Neutron-Formation Density and Gamma Ray logs and records filed by operator.

ALL TOPS ARE TRUE VERTICAL DEPTH

PLEISTOCENE:		SILURIAN:	
Drift to	445	Bass Islands	4394
MISSISSIPPIAN:		Salina G Unit	4723
Coldwater	445	F Evaporites	4768
Sunbury	932	E Unit	5559
DEVONIAN:		D Evaporites	5703
Ellsworth	942	C Unit	5739
Antrim	1482	B Unit	5820
Traverse Formation	1647	B Evaporite	5862
Traverse Limestone	1716	A2 Carbonate	6251
Bell Shale	2350	A2 Evaporite	6369
Dundee	2438	A1 Carbonate	6457
Detroit River	2669	A1 Evaporite	6576
Amherstburg	3722	Niagaran	6606
Sylvania Eq. -		Gray Niagaran	6636
Bois Blanc	3914		

Preliminary or pre-reported formation tops and other well information obtained from Geological Survey Division field reports compiled while drilling was in progress.

ALL TOPS ARE TRUE VERTICAL DEPTH

Drift	444 Sj.	D Evaporite	5702 Sj.
Sunbury	890 Sj.	C Unit	5740 Sj.
Antrim	1425 Sj.	B Unit	5862 Sj.
Traverse Formation	1646 Sj.	A2 Carbonate	6251 Sj.
Traverse Limestone	1706 Sj.	A2 Evaporite	6368 Sj.
Detroit River Anhydrite	2648 Sj.	A1 Carbonate	6458 Sj.
Bois Blanc	3918 Sj.	A1 Evaporite	6578 Sj.
Bass Islands	4396 Sj.	Brown Niagaran	6607 Sj.
Gray Niagaran	6636 Sj.	Gray Niagaran	6636 Sj.

27-28N-7W  
Rapid River Twp. (Kalkaska Co.)

DIRECTIONAL HOLE  
Oil Field Well (10)  
Dry Hole  
MTD 6734  
TYD 6700 in Niagaran (46)

Note: Directional hole with same surface location as previously drilled straight hole Permit No. 28872 and previously drilled directional hole Permit No. 31702.

The Wiser Oil Company

Permit No. 31816

L. J. Klosinski et al #1-27B

Surface Location: SE 1/4 NE 1/4 NE 1/4 Section 27, T.28N, R.7W.  
990 feet from North and 330 feet from East line of quarter section.

Subsurface Location: SE 1/4 NE 1/4 NE 1/4 Section 27, T.28N, R.7W.  
849 feet from North and 493 feet from East line of quarter section.

This well record assembly is a compilation of well data filed by or on behalf of the operator, as required by Act 61, P.A. 1939, as amended; formation tops and stratigraphic intervals determined or confirmed where possible by Geological Survey Division personnel from mechanical logs and preliminary information collected while drilling was in progress. Records compiled by R. C. Elowski, Geologist.

Elevations: 1106.5 Kelly Bushing (use for datums below 3000'),  
1104 Kelly Bushing (use for datums to 3000'), 1091 Ground

Formation tops and stratigraphic intervals determined or confirmed by Geological Survey Division personnel from Schlumberger Borehole Compensated Sonic and Compensated Neutron-Formation Density logs and records filed by operator.

ALL TOPS ARE TRUE VERTICAL DEPTH

PLEISTOCENE:		Bois Blanc	4158
Drift to	444	SILURIAN:	
MISSISSIPPIAN:		Bass Islands	4393
Coldwater	444	Salina G Unit	4723
Sunbury	931	F Evaporites	4768
DEVONIAN:		E Unit	5560
Ellsworth	941	D Evaporites	5702
Antrim	1481	C Unit	5738
Traverse Formation	1647	B Unit	5820
Traverse Limestone	1714	B Evaporite	5860
Bell Shale	2350	A2 Carbonate	6248
Dundee	2437	A2 Evaporite	6366
Detroit River	2600	A1 Carbonate	6441
Amherstburg	3713	A1 Evaporite	6562
Sylvania	3913	Niagaran	6569

Preliminary or pre-reported formation tops and other well information obtained from Geological Survey Division field reports compiled while drilling was in progress.

ALL TOPS ARE TRUE VERTICAL DEPTH

Drift	444 Sj.	D Evaporite	5702 Sj.
Sunbury	890 Sj.	C Unit	5739 Sj.
Antrim	1425 Sj.	B Evaporite	5860 Sj.
Traverse Formation	1646 Sj.	A2 Carbonate	6247 Sj.
Traverse Limestone	1706 Sj.	A2 Evaporite	6367 Sj.
Detroit River Arkosite	2600 Sj.	A1 Carbonate	6432 Sj.

27-28N-7W  
Rapid River Twp. (Kalkaska Co.)

DIRECTIONAL HOLE  
Oil Field (11)  
Oil Well  
MTD 6683  
TVD 6665 in Niagaran (46)

The Wiser Oil Company

Permit No. 31823

Note: Same Surface Location as F.N. 28872, 31702, and P.N. 31816.

L. J. Wlosinski et al 1-27C

Surface Location: SE 1/4 NE 1/4 NE 1/4 Section 27, T.28N, R.7W.  
990 feet from North and 330 feet from East line of quarter section

Subsurface Location: SE 1/4 NE 1/4 NE 1/4 Section 27, T.28N, R.7W.  
963 feet from North and 537 feet from East line of quarter section

This well record assembly is a compilation of well data filed by or on behalf of the operator, as required by Act 61, P.A. 1939, as amended; formation tops and stratigraphic intervals determined or confirmed where possible by Geological Survey Division personnel from mechanical logs and preliminary information collected while drilling was in progress. Records compiled by Allan G. Ostrander, Geologist.

Elevations: 1106.5 Kelly Bushing (use for datums), 1091 Ground

Formation tops and stratigraphic intervals determined or confirmed by Geological Survey Division personnel from Schlumberger Borehole Compensated-Compensated Neutron-Formation Density and Gamma Ray logs and records filed by operator.

ALL TOPS ARE TRUE VERTICAL DEPTH

PLEISTOCENE:		Sylvania-Bois Blanc	3909
Drift to	445	SILURIAN:	
MISSISSIPPIAN:		Bass Islands	4383
Coldwater	445	Salina G Unit	4713
Sunbury	932	F Evaporites	4757
DEVONIAN:		E Unit	5563
Ellsworth	942	D Evaporites	5685
Antrim	1482	C Unit	5743
Traverse Formation	1648	B Unit	5823
Traverse Limestone	1766	A2 Carbonate	6243
Bell Shale	2350	A2 Evaporite	6360
Dundee	2439	A1 Carbonate	6416
Detroit River	2660	Niagaran	6507
Amherstburg	3727		

Preliminary or pre-reported formation tops and other well information obtained from Geological Survey Division field reports compiled while drilling was in progress.

ALL TOPS ARE TRUE VERTICAL DEPTH

Drift	444 Sj.	E Unit	5564 Sj.
Sunbury	890 Sj.	D Evaporite	5721 Sj.
Antrim	1425 Sj.	C Unit	5740 Sj.
Traverse Formation	1646 Sj.	B Evaporite	5865 Sj.
Traverse Limestone	1706 Sj.	A2 Carbonate	6253 Sj.
Detroit River Anhydrite	2648 Sj.	A2 Evaporite	6371 Sj.
Bois Blanc	3920 Sj.	A1 Carbonate	6421 Sj.
Salina G Unit	4726 Sj.	Brown Niagaran	6535 Sj.

The following documents are reproductions of official records submitted by:  
Allan G. Ostrander, Geologist, on behalf of The Wiser Oil Company.

NAME OF OWNER OR OPERATOR Shell Oil Company		ADDRESS OF OWNER OR OPERATOR P.O. Box 552 Traverse City, Michigan 49684	
NAME OF DRILLING CONTRACTOR Chapman Drilling, Inc.		ADDRESS OF DRILLING CONTRACTOR P.O. Box 52343 Lafayette, Louisiana 70501	
WELL NAME Flook	WELL NO. 1-26	PERMIT NO. 29,538	D.P. NO.
LOCATION NW/4 SW/4 NW/4	SECTION 26	TWP. 28N	RANGE 7W
TOWNSHIP Rapid River	COUNTY Kalkaska		
FOOTAGE 817 Ft. from South Line and 460 Ft. from West Line of quarter section			
DATE DRILLING BEGUN 12-02-73	DATE DRILLING COMPLETED 12-17-73	DATE WELL COMPLETED 2-25-74	TYPE OF WELL Oil
FORMATION COMPLETED IN Salina-Niagaran	TOTAL DEPTH 6688'	ELEVATION 1103.5	KB RB RT RF GRD 1090
ROTARY TOOLS From 0 Feet to 6688'		TABLE TOOLS From Feet to Feet	

## CASING AND CEMENTING

## PERFORATIONS

## DEPTH CORRECTION

SIZE	WHERE SET	CEMENT	AMOUNT PULLED	DATE	NO. HOLES	FROM	TO	DEPTH	CORRECTED TO
16"	110'	---	None	2-22-74	3	6531'	6539'		
11 3/4"	645'	600sx	None						
8 5/8"	3450'	400sx	None						
5 1/2"	3197-6667'	1050sx	None						

## OIL OR GAS ZONES

## WATER ZONES

## DEVIATION SURVEY

FORMATION	FROM	TO	AMOUNT	FORMATION	FROM	TO	AMOUNT	RUN AT	DEGREES
Salina-Niagaran	6471'	6540'	-----						

## SAND FRAC OR ACID TREATMENT

## MECHANICAL LOGS RUN

DATE	FROM	TO	QUANTITY	BRAND	(X)	TYPE LOG	INTERVAL LOGGED
2-22-74	6531'	6539'	1200 gal	Schlumberger	X	SNP-GR	100' - 6664'
2-24-74	6531'	6539'	1200 gal	Shelwell		BHC-GR	3400' - 6662'
				Birdwell		WLL	3460' - 6654'
				Burgener		LL	3500' - 6651'
				Other			

## PRODUCTION DATA



NAME OF OWNER OR OPERATOR Hallwell, Inc.		ADDRESS OF OWNER OR OPERATOR 22154 West Nine Mile Road Southfield, Michigan	
NAME OF DRILLING CONTRACTOR Don Yohe Drilling Company Bennie Wyatt		ADDRESS OF DRILLING CONTRACTOR Armada, Michigan	
WELL NAME Hill-Finsterwald	WELL NO. 1	PERMIT NO. 29244	D.P. NO. ---
LOCATION NE SE NE	SECTION 27	TWP. 28N	RANGE 7W
TOWNSHIP Rapid River	COUNTY Kalkaska		
FOOTAGE 850 Ft. from South Line and 460 Ft. from East Line of quarter section			
DATE DRILLING BEGUN 3-24-73	DATE DRILLING COMPLETED 4-10-73	DATE WELL COMPLETED 5-2-73	TYPE OF WELL Oil Well
FORMATION COMPLETED IN Niag.	TOTAL DEPTH 6679	ELEVATION 1106	KB 1106
		RB 1106	RT 1106
		RF 1106	GRD 1091
ROTARY TOOLS From 0 Feet to 6679 TO Feet		CABLE TOOLS From Feet to Feet	

## CASING AND CEMENTING

## PERFORATIONS

## DEPTH CORRECTION

SIZE	WHERE SET	CEMENT	AMOUNT PULLED	DATE	NO. HOLES	FROM	TO	DEPTH	CORRECTED TO
16"	73'	Drive	None					1733	1733
8 5/8"	997	40 O/C	None	5-2-73	18	6520	6538	6345	6355 ST.
5 1/2 OD	6630	35 O/C	None						

## OIL OR GAS ZONES

## WATER ZONES

## DEVIATION SURVEY

FORMATION	FROM	TO	AMOUNT	FORMATION	FROM	TO	AMOUNT	RUN AT	DEGREES
Niag.	6420	6570		NO TESTS				2235	10
								4548	10
								6345	1/2°

## SAND FRAC OR ACID TREATMENT

## MECHANICAL LOGS RUN

DATE	FROM	TO	QUANTITY	BRAND	(X)	TYPE LOG	INTERVAL LOGGED
5-2-73	6520	6538	1700 glas.	Schlumberger Shelwell Birdwell Burgener Other	X	CNL, GR, FDC, DLL	200-6555

## PRODUCTION DATA

WELL COMPLETED FOR	BOPD	BWPD	MCF GAS	PRESSURES:	CASING - PSI	TUBING - PSI
	000	None	2,000,000		2500	2500

NAME OF OWNER OR OPERATOR  Shell Oil Company		ADDRESS OF OWNER OR OPERATOR  P. O. Box 552 Traverse City, Mich. 49684	
NAME OF DRILLING CONTRACTOR  Chapman Drilling, Inc.		ADDRESS OF DRILLING CONTRACTOR  P. O. Box 52343 Lafayette, La. 70501	
WELL NAME Curtin-State Rapid River		WELL NO. 2-27	PERMIT NO. 29,394
LOCATION SE SW NE		SECTION 27	TWP. 28N
TOWNSHIP Rapid River		COUNTY Kalkaska	
FOOTAGE 460 Ft. from South Line and 860 Ft. from West Line of quarter section			
DATE DRILLING BEGUN 9-01-73	DATE DRILLING COMPLETED 9-21-73	DATE WELL COMPLETED 10-02-73	TYPE OF WELL Oil
FORMATION COMPLETED IN Salina-Niagara	TOTAL DEPTH 6676	ELEVATION 1055.3	KB GRD
ROTARY TOOLS From 0 Feet to 6676 Feet		CABLE TOOLS From Feet to Feet	

## CASING AND CEMENTING

## PERFORATIONS

## DEPTH CORRECTION

SIZE	WHERE SET	CEMENT	AMOUNT PULLED	DATE	NO. HOLES	FROM	TO	DEPTH	CORRECTED
16"	105'	-		10-6-73	2	6525	6527		
11 3/4"	712'	600 SX							
8 5/8"	3476'	500 SX							
5 1/2"	6676'	745 SX							

## OIL OR GAS ZONES

## WATER ZONES

## DEVIATION SURVEY

FORMATION	FROM	TO	AMOUNT	FORMATION	FROM	TO	AMOUNT	RUN AT	DEGREE
Salina-Niagara	6452	6638							
	6306	6452							

## SAND FRAC OR ACID TREATMENT

## MECHANICAL LOGS RUN

DATE	FROM	TO	QUANTITY	BRAND	(X)	TYPE LOG	INTERVAL LOGGED
10-7-73	6525	6527	750 Gal.	Schlumberger	X	BHCSL-GR	2200-6666
				Shelwell		DLL	3500-6664
				Birdwell		MLL	3500-6664
				Burgener		SNP-CR	90-6675
				Other			

## PRODUCTION DATA

DATE	PROD	WELL	MOF GAS	CASING - PSI	TUBING - PSI
------	------	------	---------	--------------	--------------

ATTACHMENT "E"

WLOSINSKI #2-27 SWD

TENEXCO, INC.

**Names and Depth of USDW's:**

Glacial drift blankets the entire area in questions to depths that range from 400 to 700 feet. It is the main source of drinking water for area residents with water wells penetrating 50 to 250 feet. The drift is composed of alternating layers of clay, gravel, sand and boulders. The Coldwater Shale underlies the drift in the area of interest and is a gray to blue gray shale with some thin beds of light colored limestone and fine grained sandstones interspersed throughout. This aforementioned shale effectively separates the relatively freshwater aquifers in the drift from the underlying brackish waters in progressively deeper formations.

ATTACHMENT "G"

WLOSINSKI #2-27 SWD

TENEXCO, INC.

### Geological Data on Injection & Confining Zones:

The formations presently being used for injection of produced fluids are the Detroit River Group and the Bois Blanc. The Detroit River Group is composed of alternating beds of dolomite, anhydrite, salt, limestone and sandstone. The Bois Blanc is a cherty carbonate that is a traditional loss zone during drilling operations in the Southern Peninsula of Michigan. The overlying formation is the Dundee limestone which is a predominantly buff to brownish gray, fine to coarsely crystalline limestone. The underlying formation is the Bass Islands Group which is a buff to light brown, dense dolomite.

ATTACHMENT "H"

WLOSINSKI #2-27 SWD

TENEXCO, INC.



SOUTHERN PETROLEUM LABORATORIES, INC.

EPA BRINE WATER ANALYSIS

DATE: June 03, 1985  
SUBMITTED ON: May 29, 1985  
LOCATION: Wlosinski ~~1-28~~ 2-27 SWD  
COMPANY: Terra Energy

\*\*\*\*\*

Specific Gravity	1.300
PH	4.48
Chlorides	236,000 Mg/L
Total Hardness (CaCO3)	280,000 Mg/L
Total Iron	36 Mg/L
Bicarbonate	NIL
Barium	NIL
Calcium	94,400 Mg/L
Magnesium	9,100 Mg/L
Sodium	16,300 Mg/L
Sulfide	NIL
Sulfate	NIL
Total Dissolved Solids (Calculated)	356,000 Mg/L

Southern Petroleum Laboratories



ATTACHMENT "M"

WLOSINSKI #2-27 SWD

TENEXCO, INC.

ATTACHMENT

- PERFORATIONS -

Density - 4 sh./ft

2824 - 28

2858 - 68

2870 - 80

3010 - 14

3148 - 58

3174 - 78

3184 - 94

3208 - 14

3224 - 30

3248 - 64

3908 - 14

3924 - 36

4016 - 26

4090 - 4100

4304 - 34

All are open



# MATERIAL SAFETY DATA SHEET

(Essentially Similar to Form LSB 005-4)



CHEMICAL CODE	ANHIB Inhibitor	PART NUMBER	70.15341
PACKAGE QUANTITY	55 Gallon metal drum	UNIT OF ISSUE	Gallon
SERVICE USED	Chemical Services	APPLICATION	Corrosion inhibitor
CHEMICAL FAMILY	Organic	EMERGENCY PHONE	405-251-3565
		AFTER HOURS	405-251-3760

MATERIAL	%	Toxicity Data	TLV (Units)
Isopropanol	10-30	orl-man LDLo: 8600 mg/kg	400 ppm
		ihl-hmn TCLo: 400 ppm	
		TLm 96: 1000 - 100 ppm	

APPEARANCE & ODOR	Clear, red liquid, pungent-stifling odor.		
SPECIFIC GRAVITY (H <sub>2</sub> O = 1)	1.07	EVAPORATION RATE (Butyl Acetate = 1)	ND
BULK DENSITY	8.9 lbs/gal	VAPOR DENSITY (Air = 1)	ND
pH	8.5	VAPOR PRESSURE AT ____°C	ND
SOLUBILITY IN WATER AT 20°C gms/100 ml H <sub>2</sub> O	Miscible	BOILING POINT 760 mm. Hg	ND
BIODEGRADABILITY	Slowly	POUR POINT	<-20°F/-29°C
PERCENT VOLATILES BY VOLUME	16	FREEZE POINT	ND

FLASH POINT (test method)	70°F/21°C PMCC	AUTOIGNITION TEMPERATURE	ND	
FLAMMABLE LIMITS IN AIR, % by volume	LOWER	ND	UPPER	ND
EXTINGUISHING MEDIA	Foam, dry chemical, carbon dioxide.			
SPECIAL FIRE FIGHTING PROCEDURES	Use full protective clothing and NIOSH/MSHA approved self-contained breathing apparatus required for fire fighting personnel.			
UNUSUAL FIRE AND EXPLOSION HAZARDS	May be ignited by heat, sparks, flames. Container may explode in heat of fire. Flammable vapors may spread away from spill.			

The information which is contained in this document is based on available data and believed to be correct. However, as such has been obtained from various sources, including the manufacturer and independent laboratories, it is given without warranty or representation that it is complete, accurate and can be relied upon. Halliburton has not attempted to conceal in any way the deleterious aspects of the product listed herein, but makes no warranty as to such. Further, as Halliburton cannot anticipate nor control the many situations in which the listed product or this information may be used by our Customer, there is no guarantee that the health and safety precautions suggested will be proper under all conditions. It is the sole responsibility of each user of the listed product to determine and comply with the requirements of all applicable laws and regulations regarding its use. This information is given solely for the purposes of safety to persons and property.

Signature

*William L. Lane*

Any other use of this information is expressly prohibited.

SEE BACK SIDE

Gov't. Reg. Dent. Sr. Envr. Engr. C.I.R.

Date

November 1, 1983

ATTACHMENT "Q"

WLOSINSKI #2-27 SWD

TENEXCO, INC.



## PLUGGING AND ABANDONMENT PLAN

## NAME AND ADDRESS OF FACILITY

Wlosinski 2-27 SWD  
Kalkaska, MI 49646

## NAME AND ADDRESS OF OWNER/OPERATOR

Tenexco Inc.  
414 Clinton Ave., Suite 106  
River Forest, IL 60305LOCATE WELL AND OUTLINE UNIT ON  
SECTION PLAT — 640 ACRESSTATE  
MICOUNTY  
KalkaskaPERMIT NUMBER  
36963

## SURFACE LOCATION DESCRIPTION

NW 1/4 OF NE 1/4 OF NE 1/4 SECTION 27 TOWNSHIP 28N RANGE 7W

## LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface Location 380 ft. from (N/S) N Line of quarter section  
and 920 ft. from (E/W) E Line of quarter section

## TYPE OF AUTHORIZATION

- ☐
- Individual Permit
- 
- ☐
- Area Permit
- 
- ☒
- Rul.

Number of Wells 1

## WELL ACTIVITY

- ☐
- CLASS I
- 
- ☒
- CLASS II
- 
- ☒
- Brine Disposal
- 
- ☐
- Enhanced Recovery
- 
- ☐
- Hydrocarbon Storage
- 
- ☐
- CLASS III

Lease Name Wlosinski

Well Number 2-27

## CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT(LB./FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
13 3/8"	48#	100'	100'	Driven
8 5/8"	24#	900'	900'	10 5/8"
5 1/2"	15.5#	4400'	4400'	7 7/8"

## METHOD OF EMPLACEMENT OF CEMENT PLUGS

- ☒
- The Balance Method
- 
- ☐
- The Dump Bailer Method
- 
- ☐
- The Two-Plug Method
- 
- ☒
- Other
- 
- Squeeze

## CEMENTING TO PLUG AND ABANDON DATA:

	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inches)	4.95"	4.95"					
Depth to Bottom of Tubing or Drill Pipe (ft.)	2800'	2790'					
Sacks of Cement To Be Used (each plug)	180 sx	380 sx					
Slurry Volume To Be Pumped (cu. ft.)	127ft <sup>3</sup>	448ft <sup>3</sup>					
Calculated Top of Plug (ft.)	2800'	surface					
Measured Top of Plug (if tagged ft.)							
Slurry Wt. (Lb./Gal.)	16	16					
Type Cement or Other Material (Class III)	Class A	Class A					

4 Shots/Foot LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (If any)

From	To	From	To
2824	2828	3174	3178
2858	2868	3184	3194
2870	2880	3208	3214
3010	3014	3224	3230
3148	3158	SEE BACK	SEE BACK

## Estimated Cost to Plug Wells

Move in W.O. Rig. Pull TBG & PKR. set cem. retainer @2800'. Sting into cem. retainer w/TBG. Squeeze 180 sx.  
Sting out of cem. retainer. Pull TBG 10' above cem. retainer. Balance in 380 sx. Pull out of hole w/TBG.  
App. cost: \$7,000.00 @ 1985 prices

## CERTIFICATION

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

NAME AND OFFICIAL TITLE (Please type or print)

SIGNATURE

DATE SIGNED

MARTIN G. LEGINA, ENGINEER

6/14/85

# TERRA ENGINEERING

Log Analysis / Completion  
Recommendations

Reserve Estimates

Reservoir Studies

Prospect Evaluation

Production Optimization

Pre-well Planning

PETROLEUM ENGINEERING CONSULTANTS  
4906 E. Pickard  
Mt. Pleasant, MI 48858  
(517) 772-3191

MARTIN G. LAGINA  
Petroleum Engineer

CRAIG J. TESTER  
Petroleum Engineer  
Petrophysicist

## PROPOSED PLUGGING PLAN

WLOSINSKI #2-27 SWD

Should conditions exist such that the above captioned well would require plugging, the following plan shall be implemented:

Set cement retainer above upper most open perforations (approximately 2,800'). String into cement retainer with tubing and squeeze the total calculated volume between the cement retainer and total depth in 5 1/2" casing with Class "A" cement (approximately 180 sacks). Pull tubing 10' above the cement retainer. Balance in 380 sacks of Class "A" cement. This volume should circulate cement to surface. Pull out of hole with tubing. Cut casings 3' below ground level and weld a 1/2" steel plate over top.

Note: This plugging plan would leave no open annular spaces between casings as the 8 5/8" and 5 1/2" casings are cement to surface.

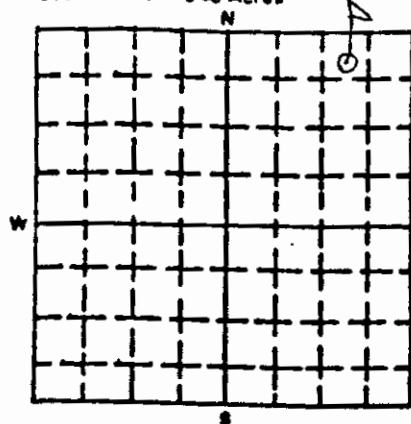
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

## PLUGGING AND ABANDONMENT PLAN

WELL NAME &amp; NUMBER, FIELD NAME, LEASE NAME &amp; NUMBER

WLOSINSKI # 2-27 SWD

NAME, ADDRESS, &amp; PHONE NUMBER OF OWNER/OPERATOR

TENEXCO, Inc.  
414 Clinton Place, Suite 106  
River Forest, IL. 60305Locate Well And Outline Unit On  
Section Plat — 640 AcresSTATE  
MI

COUNTY

Kalkaska

STATE PERMIT NUMBER

36963

SURFACE LOCATION DESCRIPTION

NW NE NE Section 27 T28N-R7W

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface 380 ft. From (N/S) N Line Of Quarter Section  
And 920 ft. From (E/W) E Line Of Quarter Section

TYPE OF AUTHORIZATION

☒ Individual Permit☐ Rule☐ Area Permit

Number of Wells

in Area Permit

U.S. EPA Permit Number

WELL  
ACTIVITY☐ Class I☐ Hazardous☐ Nonhazardous☒ Class II☒ Brine Disposal☐ Enhanced Recovery☐ Hydrocarbon Storage☐ Class III☐ Class V

## CASING/TUBING/CEMENT RECORD AFTER PLUGGING AND ABANDONMENT

Size	Wt. lb./ft. TUB./CSG	Original Amount (CSG) (ft.)	CSG to be Left in Well (ft.)	Hole Size (in.)	Cement Used	Type
13 3/8	54#	100'	100'	Driven		
8 5/8	24#	900	900		Circ to surf ClsA	
5 1/2	15.5#	4400	4400		" " "	
					1120	

METHOD OF EMPLACEMENT  
OF CEMENT PLUGS

- ☒ The Balance Method  
☐ The Dump Bailer Method  
☐ The Two Plug Method  
☐ Other, Explain:

## CEMENT TO PLUG AND ABANDON DATA:

	Plug # 1	Plug # 2	Plug # 3	Plug # 4	Plug #	Plug #	Plug #
Size of Hole or Pipe in Which Plug Will Be Placed (inches)	5 1/2	5 1/2	5 1/2	5 1/2			
Calculated Top of Plug (ft.)	2635	1175	335	Surface			
Measured Top of Plug (ft.)	-	-	-	-			
Depth to Bottom of Plug (ft.)	4400	2500	1000	100			
Sacks of Cement to be Used	200	150	75	30			
Slurry Volume to be Used (cu. ft.)	236	177	89	35			
Slurry Weight (lb./gal.)	15.6	15.6	15.6	15.6			
Type of Cement, Spacer or Other Material Used	Class A	Class A	Class A	Class A			
Type of Preflush Used							

## DESCRIPTION OF PLUGGING PROCEDURE

Circulate and balance hole, through tubing balance 200 Sx cement plug at 4400 ft. Pull tubing to 2500 ft and balance 150 Sx plug, pull tubing to 1000 ft and balance 75 Sx plug. Pull tubing to 100 ft and balance 30 Sx plug. Plug rat and mouse holes with cement and cut casing 3 ft below ground level and weld on 1/2" steel plate.

## ESTIMATED COST OF PLUGGING AND ABANDONMENT

Cement	\$ 5,000.00	Cast Iron Bridge Plug	\$
Logging	\$	Cement Retainer	\$
Rig or Pulling Unit	\$ 3,000.00	Miscellaneous	\$ 2,000.00

## CERTIFICATION

I certify under the penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

NAME AND OFFICIAL TITLE (Please type or print)

Stephen J. Savoie, Geologist

SIGNATURE

DATE SIGNED

1/6/88

# **ORIGINAL WELL CONSTRUCTION DURING OPERATION**

**Surface**

**Top Of Driven Cement \_\_\_\_\_ (ft.)**

**Surface Casing 100 (ft.)**

**USDW Base \_\_\_\_\_ (ft.)**

**\* Intermediate Casing 900 (ft.)**

**Top Of Surface Cement \_\_\_\_\_ (ft.)**

**Top Of Surface Cement \_\_\_\_\_ (ft.)**

**Packoff Depth \_\_\_\_\_ (ft.)**

**Long String Casing 4400 (ft.)**

**\* Depth \_\_\_\_\_ (ft.)**

**\*\* Add Any Additional Information**

**\* May Not Apply**

# PLUGGING AND ABANDONMENT CONSTRUCTION

[illegible]



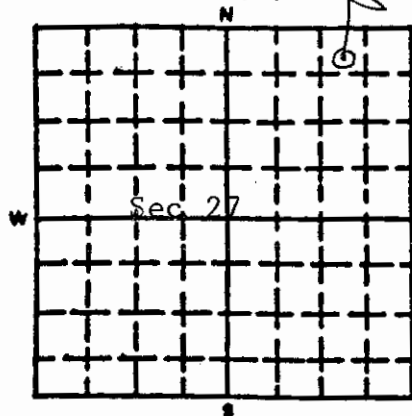

 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 WASHINGTON, D.C. 20460

**PLUGGING AND ABANDONMENT PLAN**
**WELL NAME & NUMBER, FIELD NAME, LEASE NAME & NUMBER**

WLOSINSKI #2-27 SWD

**NAME, ADDRESS, & PHONE NUMBER OF OWNER/OPERATOR**

 TENEXCO, INC.  
 414 Clinton Place, Suite 106  
 River Forest, ILL 60305

 Locate Well And Outline Unit On  
 Section Plat — 640 Acres

**STATE**

MI

**COUNTY**

Kalkaska

**STATE PERMIT NUMBER**

36963

**SURFACE LOCATION DESCRIPTION**

NW NE NE Section 27, T28N-R7W

**LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT**

 Surface Location 380 ft. From (N/S) N Line Of Quarter Section  
 And 920 ft. From (E/W) E Line Of Quarter Section

**TYPE OF AUTHORIZATION**

- ☒ Individual Permit  
☐ Rule  
☐ Area Permit

 Number of Wells In Area Permit 1

U.S.EPA Permit Number \_\_\_\_\_

**WELL ACTIVITY**

- ☐ Class I  
☐ Hazardous  
☐ Nonhazardous  
☒ Class II  
☒ Brine Disposal  
☐ Enhanced Recovery  
☐ Hydrocarbon Storage  
☐ Class III  
☐ Class V

**CASING/TUBING/CEMENT RECORD AFTER PLUGGING AND ABANDONMENT**

Size	Wt. lb./ft. TUB./CSG	Original Amount (CSG) (lb.)	CSG to be Left in Well (lb.)	Make (Size in.)	Cement Used	Type
13 3/8	54#	100	100	Driven		
8 5/8	24#	900	900		circ to sur	Class A
5 1/2	15.5#	4400	4400		circ to sur	Class A

**METHOD OF EMPLACEMENT OF CEMENT PLUGS**

- ☒ The Balance Method  
☐ The Dump Sailer Method  
☐ The Two Plug Method  
☐ Other, Explain:

**CEMENT TO PLUG AND ABANDON DATA:**

	Plug # 1	Plug # 2	Plug # 3	Plug # 4	Plug #	Plug #	Plug #
Size of Hole or Pipe in Which Plug Will Be Placed (inches)	5 1/2	5 1/2	5 1/2	5 1/2			
Calculated Top of Plug (ft.)	2734	1409	335	Surface			
Measured Top of Plug (ft.)	2734						
Depth to Bottom of Plug (ft.)	4400	2734	1000	100			
Sacks of Cement to be Used	180	150	75	30			
Slurry Volume to be Used (cu. ft.)	212	177	89	35			
Slurry Weight (lb./gal.)	15.6	15.6	15.6	15.6			
Type of Cement, Spacer or Other Material Used	Class A	Class A	Class A	Class A			
Type of Preflush Used							

**DESCRIPTION OF PLUGGING PROCEDURE**

Plug #1 is already in place following a rework. Circulate and balance hole, through tubing balance 150 Sx cement plug at 2734, pull tubing to 1000' and balance 75 Sx cement plug. Pull tubing to 100' and balance 30 Sx plug. Plug rat and mouse holes with cement and cut casing 3' below ground level and weld on 1/2" steel plate.

**ESTIMATED COST OF PLUGGING AND ABANDONMENT**

Cement	\$5,000.00	Cast Iron Bridge Plug	\$
Logging	\$	Cement Retainer	\$
Rig or Pulling Unit	\$3,000.00	Miscellaneous	\$ 2,000.00

**CERTIFICATION**

I certify under the penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

**NAME AND OFFICIAL TITLE (Please type or print)**

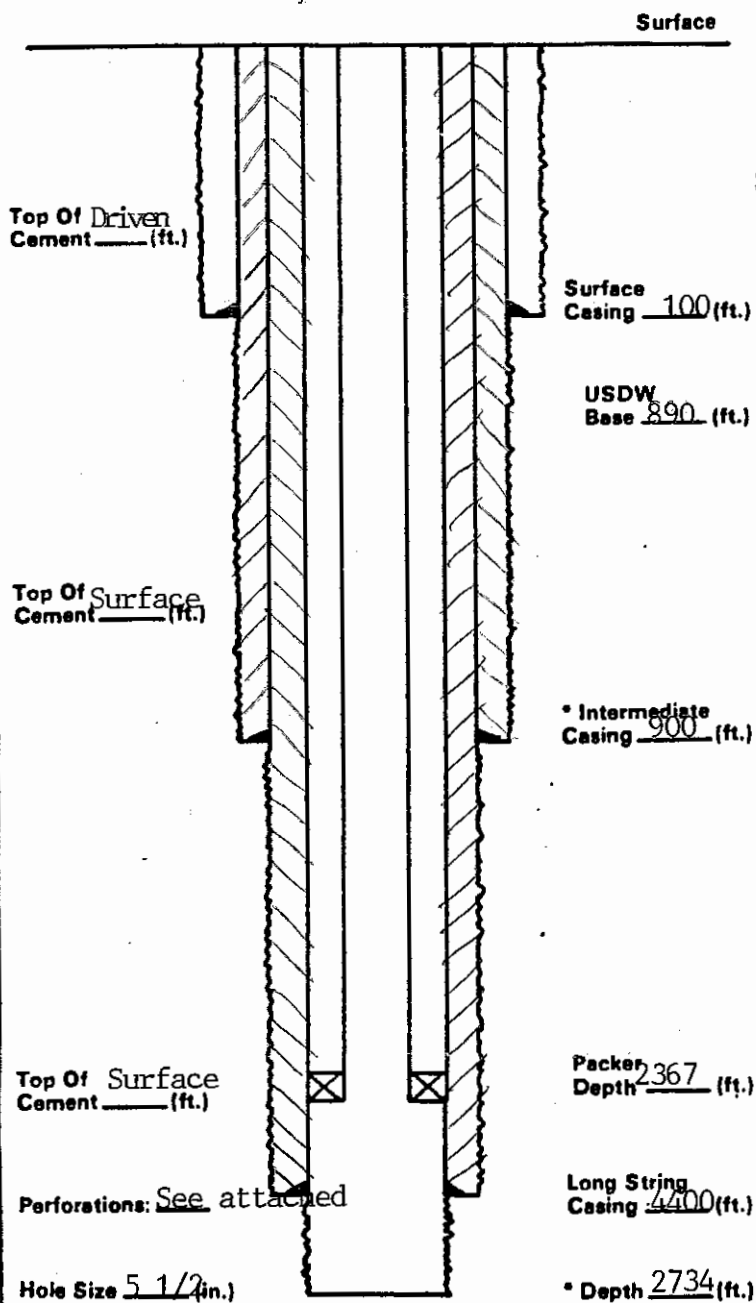
Stephen J. Savoie, Geologist

**SIGNATURE**
**DATE SIGNED**

10/24/88

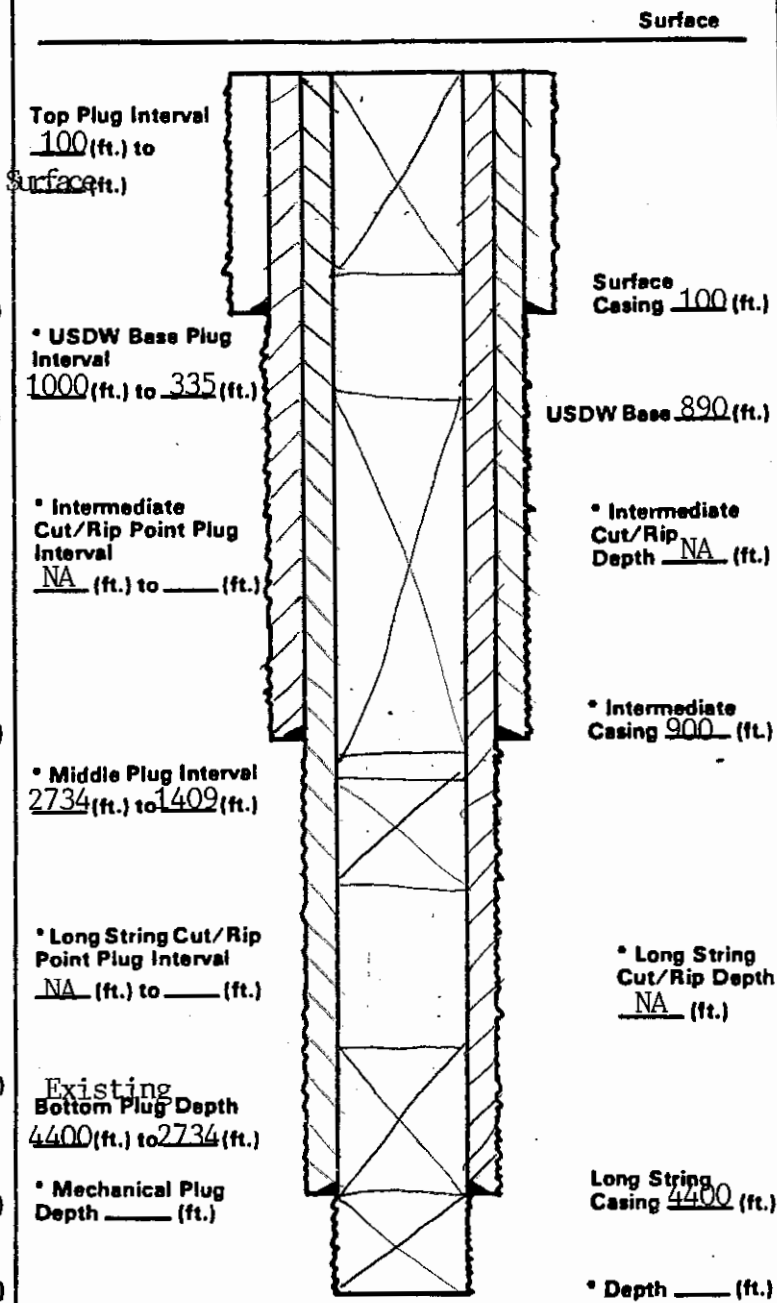
ORIGINAL WELL CONSTRUCTION DURING OPERATION

Wlosinski #2-27 SWD



\*\* Add Any Additional Information  
• May Not Apply

PLUGGING AND ABANDONMENT CONSTRUCTION



\*\* Add Any Additional Information  
• May Not Apply

LIST OF ALL OPEN AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED

Specify Open Hole/Perforations/Varied Casing	From	To	Formation Name
Perforations	See Attached		

ATTACHMENT "T"

WLOSINSKI # 2-27 SWD

TERRA ENERGY LTD. / TENEXCO, INC.

**EPA permits:**

**Gornick #11-23SWD**

**Permit Number MI-137-2D-0010**

**Gruebner #1-16C Enhanced Recovery Well**

**Permit Number MI-079-2R-0002**